Iran heats blockade with extra tankers, Page 6

No. 30,366

EUROPE'S BUSINESS NEWSPAPER Monday October 19 1987

World News

Greens fail to shake **Swiss** coalition

Green environmentalist groups made gains in the Swiss federal elections but failed to shake the control exercised over Swiss politics since 1959 by the governing four-party coalition.

After results from 100 of the elections but failed to shake the control exercised over Swiss politics since 1959 by the governing four-party coalition.

After results from 109 of the 200 seats in the federal National Council had been declared, the Ecological Party, which held three seats in the outgoing legislative, had gained two places. An allied Green-Red group had also captured two new seats. Page 26

Arms seized

Italian customs police seized 14 tous of arms, mostly West German-made machine guns, after they were found aboard the 10.000-ton Qatar-flagged Fathul Khai in Savona, a northern Italian port, destined for the Gulfarea.

Post strike ends

Members of the 23,000-strong Canadian Union of Postal Work-ers drifted back to their jobs in compliance with a tough back-to-work bill pushed through Parliament by the Government.

Syria visit

Iranian Prime Minister Mir-Hossein Mousavi began a three-day visit to his country's main Arab ally, Syria, ahead of an Arab summit expected to promote full backing for Iran's Gulf war enemy, Iraq.

Security links

France and Spain announced wide-ranging plans to forge new Mediterranean security links including a top-level committee to monitor security on both sides of the sea.

North Sea battle

A fleet of Danish fishing boats fought a water cannon battle with a chemical incineration

to join US oil magnate Armand Hammer's plans for an Afghan settlement but declined to say whether it was prepared to lead an international peacekeeping

Spain backs down

Spain scrapped plans for an ex-perimental nuclear waste proj-ect near the Portuguese border after strong protests by Portu-guese officials and local groups. Page 5

Palestinian boycott

Palestinian leaders boycotted a meeting with US Secretary of State George Shultz in protest against the US decision to close a PLO information office in

Strike collapses

The strike in South Africa by about 4,000 black employees at Anglo American's Highveld Steel & Vanadium, collapsed as management began mass dis-

Dhaka arrests

Bangladesh Police arrested at least 11 members of the opposi-tion Bangladesh Nationalist Party in what party sources claimed was a government attempt to thwart a two-day gener-

Manila scare

The Philippine government claimed yesterday it foiled a new coup attempt after rebel soldlers stole an armoured car from an army camp. The sol-diers abandoned it about as mile from the President's residence and an opposition source said the rebels planned a military operation' which failed af-

ter someone tipped off pro-gov-Sikhs held Indian police yesterday ar-rested three top Sikh priests, triggering fears of a backlash in

the boly city of Amritsar. Hermes go-shead

France appeared determined to press ahead in calling for West European support for its controversial Hermes manned spacecraft project Page 5

Business Summary

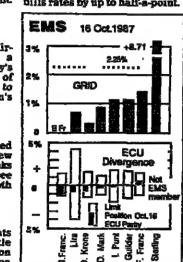
TWA okays chairman's new offer for stock

Mr Icahn raised his offer to \$20 in cash and securities with a face value of \$25 for each TWA share. The offer values the whole of TWA at \$1.35bn.

EUROPEAN Monetary System: Further dollar weakness boosted the West German D-Mark within the EMS last week and prompted intervention by central banks to help stem the

The Bank of France sold the D-Mark, which reached its best level against the franc for over a

The Belgian central bank also sold a modest amount of D-Marks, not only because of dollar weakness but also to defend the Belgian franc which had fallen on news that Premier Martens had tendered his resignation. On Friday the bank also increased short-term Treasury bills rates by up to half-a-point.



with 2 chemical incineration ship yesterday in the North Sea off the Dutch coast at Den Helder, to demonstrate against burning chemical waste at sea.

The chart shows the two constraints on European Monetary System enhance rates. The upper grid, based on the weakest currency (expended in the system, defines the cross-tole ion US oil magnate Armand capt the lira) may move more than 214 per cent. The lower chart gives each currency's divergence from the "central rate" against the European Currency Unit (Ecu), itself derived from a basket of European

> CELLIZCE, Britain's largest specialist bio-technology com-pany, is expected to announce a substantial international share placing this month. Page 8

SAAB-SCANIA, Swedish automobile and aerospace group, reported a 7 per cent drop in profits for the period May to August at SKr659m (\$135.2m) but expects a better performance from its truck division. Page 30

BANK OF ENGLAND and the four UK clearing banks have drawn up measures to restore order to the markets after unusual weather conditions caused the suspension of inter-bank clearing systems. Page 8

IRAN maintained oil produc-tion at at least 2.2m barrels a day for the first 10 days of Octo-ber despite a major raid on its Larak Island terminal. Page 5

TEXAS INSTRUMENTS, US electronics and semiconductor manufacturer, reported a dra-matic earnings increase for the third quarter and announced plans to strengthen its position in the factory automation mar-

TAIWAN plans tariff cuts averaging 50 per cent on more than 3,500 imports within its current trade policy reforms. Page 6

SWEDISH MATCH, Swedish conglomerate and world's leading match manufacturer, reported a 46 per cent increase in profits for the first eight months at SKr287m (345.2m), helped by higher profits from its flooring, door and packaging subsidiaries. Page 30

TURKEY'S exports in September were worth \$1.1bm, more than double last year's figure and a record for a month. Page \$ SCANDINAVIAN Airline Sys-

tem has wonpermission to start flying non-stop from Copenhagen to Beijing over the Soviet Union,thereby cutting its flying time by half. Page 6

Wall Street's hangover starts as bull run party ends

THE LONGER the party, the bigger the mess. So it was not a pretty sight last week when wall Street finally turned on sell-off could halt soon and en-

bond prices was not bad enough, realisation that the party was permanently over for some people - those who are los-ing their jobs - aggravated the

ing their jobs - aggravated the anguish.

One of the longest bull markets this century has had painful side effects, such as bloated staffs, management headaches, inflated costs and tighter profit margins. News that Salomon Brothers was firing 800 people was taken as a harbinger of Street-wide retrenchment. The music stopped suddenly last week, when a selling binge. last week, when a selling binge, prompted by fears of higher in-

Jones Industrial Average down
236 points - exactly half the
ground it has lost since it
peaked eight weeks ago at

the lights and began cleaning ter the record books as a severe up after five years of rip-roaring correction. Alternatively, it bull markets.

As if the plunge in stock and history as the start of a ferocould continue and go down in history as the start of a ferocious bear market.

Enough investors may be per-suaded to go bargain hunting to stop the rot. Over the weekend, many analysts were hanging doggedly on to their hopes that stock market fundamentals jus-stift a water to higher prices. tify a return to higher prices.
They argued that the 17 per cent drop in the Dow had cleaned out some of the excesses in

IBM, for example, the largest capitalisation stock in the US, has fallen more than 20 per cent from the peak. Friday's close of rom the peak. Friday's close of \$135 represented a p/e of 13 or 14 on estimated 1988 earnings. Other stocks' retreating from record p/es of well over 20 have been less spectacular but potentially rewarding for domestic and foreign investors. One of the best color the properties of the best color the properties of the peak to be the peak.

by Salomon to Tokyo clients at a p/e of 560.

Moreover, the economic outlook remains good. Growth is picking up, inflation will rise but not rampantly and corporate profits are accelerating rapidly.

But the trauma of last week may make investors turn a deaf ear to analysts' arguments. Bloodied, bruised and bewil-dered by stocks' free fall, they might scramble to cash in their-remaining profits and head for bonds.

There are few signs yet of a big switch into the credit markets. But the pace could pick up if the Federal Reserve fails this week to convince investors that it has a tight grip on inflation and interest rates. Confusion about what the central bank was up to worsened events last week.

2,722.42. the best picks the Japanese can The scale of the collapse Whether the markets' party expect at home, for example, is looked particularly scary on resumes soon hangs delicately Japan Air Lines, recommended Friday. The Dow Industrial in-

helped it to a final loss of 'only' a record 108.36 points. New York Stock Exchange volume was a record 338.5m shares with 328.8m down and a scant 3.6m

Huge volume and whip-lash volatility were blamed once again on futures and options and the computer techniques used to play them. Black humour helped ease the tension and drama. Shearson Lehman Brothers' block traders erected a sign above their desk "To The Lifeboats."

While statistics cannot measure the anxiety level, they can offer some perspective. Friday's 4.6 per cent Dow drop was the sixth steepest in a day in percentage terms since World War Two, though only the 76th in the index's history.

the former headquarters of the Liberation Tigers of Tamil Ee-lam (LTTE) at Kapay Nort, just outside Jaffna. Earlier the Indian army claimed its forces he breached the site's perimeter suggesting

the city's perimeter, suggesting that a final assault is imminent.

The intensification came as Mr Rajiv Gandhi, the Indian Prime Minister, rejected the idea of negotiations with the Tigers, who have been holding out

gers, who have been holding out in Jaffna for the past nine days.

Speaking in Vancouver, where he has been attending the Commonwealth heads of government summit, he said the Tigers must end their opposition to a past simed at ending

tion to a pact aimed at ending the island's bloodshed. They should categorically surrender all the arms and amunition in

to augment forces surrounding the city. India could now have

more than 20,000 troops in Sri Lanks.

ever, bigger than the eight-month drop in 1984 between the first and second legs of the 1982-87 bull market and accomplished four times faster.

By any measure, last week was grim enough to silence even the unalloyed optimists who had been exuberantly forecast-ing a Dow at 3.600 by next summer. Now bullish forecasters are being more circumspect about exactly how far the Dow will go up.

Small investors could turn the most negative following the loss of those cheerleaders. Fidelity Investments, one of the top mutual fund and discount brokerage house in the US, said customer calls on its 24-hour trading lines were up about 30 per cent. Calls and redemptions, however, were running well below levels seen during the peak of the 1984 correction. the peak of the 1984 correction.

But a rocky start to the week The 17 per cent fall in the selling by individual and institutional investors which could by a couple of percentage point to get into the top 10 biggest post-war declines. It was, how-

INDIA Madras

Jaffna SRI LANKA

1名前 / Tamil Nadu

Trincomalee Northern

Region

when a last minute appeal by Mr M G Ramachandran, the Chief Minister of Tamilnadu,

for talks was rejected.

The death toll so far has been

Region

COLOMBO

Peruvian pin-stripe freedom fighter sits it out

MR FRANCISCO PARDO ME-SONES, president of Peru's Banco Mercantil, fancies himself a kind of pin-striped free-dom fighter. He has been camped at his bank night and day since September 28 to re-sist physically the Govern-ment's nationalisation of his bank.

bank.

His is one of 10 private banks, 17 insurance companies and six finance companies that are to pass to the state under Peru's new law nationalising the private financial sector. The law, proposed by President Alan Garcia on July 28, went into effect on October 12.

In the three weeks since Mr

In the three weeks since Mr Pardo began his vigil he has be-come a centre of national atten-

come a centre of national attention. What makes him fascinating in this country where government and business leaders regularly cut deals quietly behind doors is his open, stubborn defiance.

Government officials attribute Mr Pardo's flair for publicity to "his political blood". His grandfather was twice president of Peru, from 1904 to 1908 and from 1915 to 1919. And now he says that he will enter politics "because it's the only way to fight."

Officials want to avoid giving Mr Pardo the satisfaction of "carrying him out kicking from his bank, But that may be difficult because he does not intend

cult because he does not intend

to give up.

The bank has become a social headquarters of the conserva-tive opposition. Mr Pardo's fam-ily and friends visit him and a press contingent waits for the expected state intervention. Senators, congressmen, politi-cal party and business leaders have paid calls. "Sometimes the cocktail parties have gone on until four in the morning." Mr

Pardo said.
But the tension shot up last week when heavily armed police violently seized Perus top two private banks, the Banco de Credito and the Banco Wiese, and the Banco de Credito's finance company, Financiera de

Shocking even those who have supported the nationalisation plan, police battered down the door of the Banco de Credito with a small tank. Its employees have refused to work since then, while riot-equipped police remain in the bank. In rebel fashhave sabolaged a opening by disconnecting the

Mr Pardo is convinced that a nasty scene is in the making for the Mercantil. He announced last Thursday that he gave his staff a 15-day leave with pay to protect their physical safety." There have already been brushes with dangers other than police intervention. Last Continued on Page 26

Commonwealth stand Indian forces set to make final on South Africa assault on Jaffna attacked by Thatcher INDIA'S peace-keeping force in Sri Lanka tightened its grip on the Tamil rebel stronghold of Jaffna city yesterday, pouring more troops into the area and claiming that it had captured of the

BY ROBERT MAUTHNER IN VANCOUVER AND TOM LYNCH IN LONDON

MRS MARGARET THATCHER the British Prime Minister, yes-terday launched a strong attack

terday launched a strong attack on Commonwealth leaders who condemned her lone stand blocking further economic sanctions against South Africa.

Her attack came after the Commonwealth Heads of Government conference ended in disagreement between Britain and its 48 partners over sanctions. The discord was compounded by a row over the way the British delegation had conducted its press briefings during the five-day conference.

Several of the most prominent leaders, including Mr Bob Hawke of Australia, Mr Rajiv Gandhi of India, Mr Robert Mugabe of Zimbaiwe and President Kenneth Kaunda of Zambia, accused Britain of waging a dent Kenneth Raunda of Zam-bia, accused Britain of waging a deliberate "disinformation" campaign, aimed as discredit-ing Canada's sanctions policy,

in particular, and the chairman-ship of the conference of Mr Prime Minister.

However, in an interview on BBC radio yesterday, Mrs.

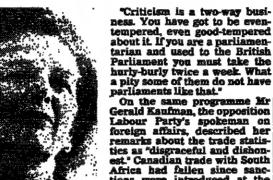
Thatcher described as "very unjust indeed" a suggestion by Mr.

Mugabe that financial and racial motives lay behind the British stance, and she expressed irritation at objections by Canada to her presentation of figures showing that Canadian trade with South Africa rose sharply



Margaret Thatcher: lone stand

the final communique. Brian Mulroney, the Canadian Britain had done more for Zim-Prime Minister. babwe than anyone else. We and tha However, in an interview on have helped them in aid. Mr for m Mugabe would not be there now if we had not brought them to



showing that Canadian trade with South Africa rose sharply back. That is what they do not between 1985 and 1986.

Mrs Thatcher also said other Commonwealth heads had refused her request for British generosity towards the front-line states in aid and debt write-offs to be recognised in

She said the figures on Canadian trade with South Africa came from the International Monetary Fund. We are ac-cused of all sorts of things, and we are not expected to answer back. That is what they do not like. We are expected in a good tempered reasonable way to take attack after attack, after at-

about it. If you are a parliamen-tarian and used to the British Parliament you must take the hurly-burly twice a week. What a pity some of them do not have parliaments like that." On the same programme Mr Gerald Kaufman, the opposition Labour Party's spokeman on foreign affairs, described her remarks about the trade statis-ties as "disgraceful and dishon-est." Canadian trade with South

est" Canadian trade with South Africa had fallen since sanctions were introduced at the start of this year. "She is constantly peddling untruths and distortions and now she is doing it about the Canadian Government. She has never had any strong feelings about racial oppression at all." At the end of the conference, Mrs Thatcher had the satisfaction of claiming that she had not

about racial oppression at all.

At the end of the conference, Mrs Thatcher had the satisfaction of claiming that she had not budged an inch from her declared pre-conference policy and that the call by her partners for more severe measures against South Africa was devoid in the conference policy and that the call by her partners for more severe measures against South Africa was devoid indian troops were being sent gets' offer of negotiations and the augment forces currently when a last impute appeal by the negotiations and the suggest of the conference.

India is thought to have 6,000 troops around Jaffina where they have been fighting some they and that the call by her partners for more severe measures against South Africa was devoid of any decision on specific new

sanctions.

However, that result was achieved only at the cost of deepening the rift, not only between Britain and the African countries, but between Britain and the so-called 'old' Common-wealth countries of Canada, Australia and New Zealand. The most positive practical outcome of the conference was the general endorsement of a programme of co-ordinated

Continued on Page 26

Unesco gets new director after bitter votes battle

MR. FREDERICO MAYOR, the Spanish biochemist and former education minister, was nominated yesterday by Unesco's executive board as the new Directory of the control of the c tor-General of the United Nations Educational, Scientific

Nations Educational, Scientific and Cultural Organisation after a bitter electoral battle. He defeated Mr Amadou Mahtar M'Bow, Unesco's controversial head for the past 13 years who was seeking a third term. Mr M'Bow decided to drop out of the final round of voting on Saturday night.

Saturday night.

But Mr Mayor's election was held up by a long procedural hattle which lasted until the early hours of Sunday morning as the supporters of Mr M'Bow asked for the right to vote not only for, but also against the single candidate in the final Mr Mayor won a comfortable najority of 30 out of the 50 votes in the executive board. Howev-

er, the 20 votes against him re-flect the deep divisions which persist in the troubled, Paris-based organisation.

Most delegates expressed re-

isation which is now fighting for its survival.

its survival.

Under the leadership of Mr M'Bow, the outgoing Senegalese Director-General, Unesco was plunged into the worst crisis of its 41 year history. Mr M'Bow was criticised by most Western nations for his poor management of the organisation and his anti-West attitudes.

The crisis reached a climax when the US and subsequently the UK and Singapore withdrew from the organisation in 1984 and 1985, depriving Unesco of 30 per cent of its budget.

Later, efforts were made to restructure the organisation, including the elimination of 800

cluding the elimination of 800 jobs as well as trying to forge a degree of political consensus between Western and develop-ing country members. But many member countries felt that the recovery of the organisation had to entail the election of a new director-general to replace

Mr M'Bow bitterly attacked his opponents on Saturday night when he announced his decision to stand down. He claimed he had been the victim of political maneouvrings and dirty tricks to prevent him from of Western countries had in fact threatened to withdraw from Unesco if Mr M'Bow was nominated for another six-year term.

However, France broke ranks with the Western bloc and continued to support Mr M'Bow af-ter the Pakistani candidate, Mr Yaqub Khan, withdrew from the race after the second round of voting But after Mr M'Bow's decision to stand down on Satur day night, France voted for Mr Mayor, Mr Jean-Bernard Raimond, the French foreign minister, confirmed yesterday.

now be ratified on November 7 by the general conference of the 158 member organisation. How-ever, he is widely expected to win the necessary ratification.

The Indian troops are thought to have opened a number of corridors to allow the evacuation of the 130,000 civilians in the city, who have been short of 104 Indian troops killed and 327 injured according to an Indian spokeswoman. Tamil Tiger deaths have been put at 551. Would your company be twice the company if you could arrange a buy out?



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CONTENTS

Unit Trusts

US bonds

DAGLECTO	7
Companies30	I
Britain8-14	L
Companies32	1
Combanics	L

Arts - Reviews World Guide Construction Crossword Currencles Editorial comment .

2-3.5-6 Anthony Harris nti. Capital Markets etters anagement Men and Matters . Money Markets .. Stock markets - Bourses . 41-43UK gilts.



MONDAY PAGE

INTERVIEW Quentin Peel talks to Emile Noel, father of the European Commission,

Page19

Unesco: Striving to create a new con-Yugoslavia: Time running out for the

Editorial comment: Running for Presi-

dent; Posturings in Vancouver.

Anthony Harris: The odds against a soft landing ... Lex: Taxing time for pension funds .. 26 British Petroleum: survey 20-22 World Telecom's: survey section III Paul Betts reports on the final night of debate in Paris which yielded a new director-general

Unesco leadership struggle opens new wounds

THE FIFTY members of the ex-ecutive board of the UN Educa-tional, Scientific and Cultural Organisation (Unesco) emerged in the early hours of yesterday from the agency's bunker-like basement conference room in Paris red-eyed and battered. but relieved after the most bitter electoral battle in the entity's 41-year history.

Even after Mr Amadou Mahtar M'Bow, the controversial Senegalese who was running for a third consecutive term as director-general, had dropped out of the race on Saturday night, an 11-hour procedural battle held up the final vote. At 6 a.m., Mr Federico Mayor of Spain, the only candidate left, finally emerged as the winner.

The withdrawal of the US, the UK and Singapore from the agency in 1984 and 1985 threw Unesco into crisis and deprived it of 30 per cent of its budget. Now the election battle has opened new scars and further undermined the credibility of the organisation.

In recent days, various other western countries including West Germany, Switzerland and Canada, had threatened to quit if Mr M'Bow were chosen for a third term. Like the US and the UK these had become disillusioned by what they regarded as the mismanagement of Unesco by Mr M'Bow and by a growing-politicisation of the agency.

MR AMADOU M'BOW's failure to hang on to his job as head of Unesco should significantly strengthen Mr Moise Mensah's chances of election next month to the top job in the UN's Food and Agriculture Organisation (FAO).

Mr Meusah is the the Organi-sation of African Unity's can-didate to challenge the Leba-nese Mr Edoardo Saotina, the existing FAO secretary gen who, like Mr M'bow, bas held his job for 12 years.

If Mr M'bow had held on at
Unesco, the chances of another

Even after Mr M'Bow had bowed out, Mr Mayor failed to win a unanimous vote from the

executive board, Indeed, 30

said the final vote represented a politicisation of Unesco which we had not seen for more than two years. The agency was

again undergoing a mini-crisis and the efforts of the past years to bring the various power blocs closer after the departure of the US and the UK had been under-

mined. The 20 votes against Mr

members voted for the Spanish former education minister but 20 voted against him. Mr David Wilson, the Canadian delegate, African capturing the leader-ship of a second UN agency would have been much weaker. Mr Mensah, Benin's former Minister of Agriculture and now deputy director general of the international Fund for Ag-ricultural Development, is strongly supported by nearly all of the FAO's main denor countries.

He told the Financial Times last week that he believed he already had a firm majority of the agency's 158 member countries ready to back him in the election on November 9.



M'Bow reflected the disappointment of a large number of mem-bers, Mr Wilson said.

Mr Mayor, whose nomination by the executive council re-mains to be ratified by the 158 member governments at Unesco's general conference on November, sought yesterday to calm the passions of the last few days. He claimed he had emerged as the candidate of the executive council and not just the candidate of Spain. That means I'm also the candidate of the African bloc." He said his first concern would be the developing world, "especial-

ly Africa".

He also hoped that the US and the UK would work again with the agency, especially on scientific and environmental projects, preparing for their eventual return to the organisation.

However, he is likely to face a Herrulann task in trying to heal Herculean task in trying to heal the wounds and divisions of the

last few years of Mr MBow's tenure. The spectacle of the last few days has done little to foster constructive dialogue between the industrialised West and the developing countries. A broad consensus had emerged among members from both sides that tion when the chips were down.

The West, especially France, made what appears to have been a diplomatic blunder by miscalculating the support the Pakistani candidate, Mr Yacub Khan, could muster in the exec-utive board. It was clear from start that the Pakistani foreign minister would not win approv-al from a large portion of devel-oping countries and the Soviet

He withdrew after the second round of voting and then surrealism peaked when France an-nounced it would support Mr M'Bow against the rest of the western bloc. Even after his withdrawal, France, anxious to withdrawal, France, anxious to keep a French speaker at the top of the Paris-based agency, made a point of paying tribute to the outgoing director-gener-al. Mr Bow attacked the cam-paign and the alleged dirty tricks which had forced him to abandon the race, he said.

The African camp must also share the blame for the fiasco. Many African countries had expressed doubts, in private at least, over a third mandate for Mr M'Bow but they all railied around their controversial can-didate, making the search for a constructive solution more dif-

It is the Soviet bloc that may the agency a repriev

Unesco urgently required a new direction if it were to survive, but the respective sides seemed unable to adopt a common position when the chief ward down. tion. In the first four rounds, these votes went to the bloc's candidate, Mr Nikolai Todorov of Bulgaria. While stating that they had some "sympathy" for Mr M Bow, the delegates never said they would vote for him in the final round. The Soviet Union hinted strongly last week that the eastern bloc was conthat the eastern bloc was considering a switch to Mr Mayor.

By supporting him, the Soviet bloc thus seems to have tilted the balance in favour of the Spaniard. One member of the Soviet delegation confirmed yesterday that the eastern bloc had firmly backed Mr Mayor and had hoped he would be elected by consensus. The Soviet official also added that Mr Mayor was not the candidate of

et official also added that Mr Mayor was not the candidate of the West, but of everybody, be-cause he had support from all regions of the world. Indeed, af-ter the final vote, the Senega-lese delegate, Mr Ibe Der Thiam, congratulated Mr Mayor and pledged Toyal support. For Unesco and Mr Mayor, the

most urgent task will be to try to restore some broad consensus between developed and developing so as to help heal the deep scars of recent years and put the organisation back on its feet. The election of Mr Mayor on Sunday morning has given

EC in move to curb spending on agriculture

BY TIM DICKSON IN BRUSSELS

in Luxembourg today amid signs that the farm budget crisis is getting worse. While the EC farm ministers

meet to try to agree ways of at least stabilising the level of farm spending, EC foreign min-

farm spending, EC foreign min-isters will have their first thor-ough debate on a whole package of budget reforms.

The deadline set for both sets of ministers is to reach a deal in time for the EC summit in Co-penghagen in December. That is already regarded as a tall order in Brussels, and even while they are debating the issues, the gap in Brussels, and even while they are debating the issues, the gap between static revenues and soaring spending in the Community is getting wider.

Figures announced by the Commission show that the Ecu

Commission show that the Ecu 27bn proposed for agriculture in the Community's preliminary draft budget for 1988 is already too optimistic and that on pres-ent trends at least a further Ecu 1.7bn will be needed to cover the costs of market and price

support. A spokesman in Brussels yes A spokesman in Brussels yesterday explained that even this makes the assumption that EC Farm Ministers will soon embrace the idea of a Community tax on vegetable oils and fatssomething they showed a marked reluctance to do earlier this year. If they continue their opposition to this fund-raising device, another Ecu 2bn could be added to 1988 farm spend-

A CRUCIAL new round of political negotiations to control EC spending on agriculture begins in Luxembourg today amid spending next year should be no more than Ecu 22bn.

Today's Farm Council in Luxembourg, however, has much more than even these pressures at stake. Farm Ministers' agree-ment to a wide-ranging package of Common Agricultural Policy of Common Agricultural Folicy (CAP) reforms - known as 'stabi-lisers' - is now seen as vital if EC Heads of State (notably Mrs Thatcher) are to accept Com-mission President Jacques De-lors' request for a substantial increase in the EC's own re-

This week's meeting which is expected to end tomorrow night, will concentrate most of its energies on the Commission's proposal to set a ceiling-or maximum guaranteed quan-tity- on EC cereals support Onby West Germany appears at this stage to be adamantly opposed to the suggested figure of 155m tonnes, but there is disagreement over what methods should

The foreign ministers have to consider all other aspects of the financial reform package pro-posed by the EC. They are supposed eventually to decide on a new basis for raising cash con-tributions from the member-states, how and if to provide more money for social and re-gional spending, and the basis for any future rebates to major contributors. posed eventually to decide on a

'Mecca' of Korean democracy greets a political son

BY MAGGIE FORD IN KUSAN, SOUTH KOREA

THE PEOPLE of Kusan, South Korea's industrial capital city, decided to make a day of it. They gathered in their hundreds of thousands for a political picnic on Saturday, complete with lunch and drinks along-side the banners and pennants appropriate to a party rally.

Kim Young Sam, leader of the opposition and candidate for the presidency in the election due in December. He did not disappoint his supporters in this mainly working class

city.

Kusan, he told them to rousing cheers, was the Mecca of Korean democracy where dictatorship had been defeated three times in recent history. In 1979 riots against the regime of President Park Chung Hee had led to his assassination, in 1985

Kusan's voters had soundly beaten the ruling party in a national elec-tion, and in June this year they had held the strongest demonstrations

in favour of democracy. Those demonstrations led to the reforms introduced by Mr Roh Tae Woo, presidential candidate for the The focus of the attention was Mr ruling Democratic Justice Party.

Im Young Sam, leader of the oppofirst in the election campaign, to

spell out his poll promises. They included: • An end to corruption by public officials and fair hiring policies to eliminate discrimination A welfare-based society where workers, farmers and the poor would share in the country's eco-

nomic boom. The release of all political prison-

anteed protection of human rights.

• A major drive to establish a free press and television.

• Efforts to build trust with North Korea in a step-by-step programme

Mr Kim's popularity in Kusan is enormous. His local credentials as a fighter for democracy since the over who is to stand against Mr 1960s, when he was first elected as Roh. If both Kims stand, it is feared South Korea's youngest ever mem-ber of parliament, highlight the re-gional basis of much of the support enjoyed by South Korean politi-

Mr Kim's rival for the opposition candidacy is Mr Kim Dae Jung from the neighbouring province of Cholla, whose capital Kwangju was the site of a bloody uprising against agree on who is to stand has pro-tems."

MAINTENANCE FREE NORMALLY EXOLOG

his campaign for the presidency many observers feel it is too early with a visit to his home toun where to judge. his welcome was even more tumul-

The strong support both men can command has caused a continuing struggle in the opposition party that the opposition vote could be split thus letting in Mr Rob. Mr Kim Dee Jung has said he plans to run but to step down at the last minute in favour of his rival if he feels his support is not strong enough to guarantee the defeat of Mr Rob.

the present Government in 1980. In woked some annoyance and could September the latter Kim started result in more votes for Mr Rob, but

Mr Kim Dae Jung outlined the economic policy he would pursue if he became president to a group of 500 businessmen at the weekend. He said he would attempt to introduce free market forces into the economy, removing the big business groups from strict control by the authorities.

"Some fear that I would order the reshaping of conglomerates and confiscation of illicitly made for-tunes," he said. "But I am not con-Mr Rob.

sidering such drastic steps. I have
The failure of the two Kims to confidence in liberal economic sys-



Belgian king expected to act over political crisis

STREET, STREET,

SPECULATION WAS mounting in Belgium last night that King Baudouin will today make his widely anticipated move to ease

widely anticipated move to ease
the country's political crisis,
writes Tim Dickson.
On Thursday the king refused
to accept the resignation of Wilfreid Martens, the Prime Minister, putting the decision 'into
suspense.' He has since held
consultations with key party
leaders in an effort to determine the next move.

mine the next move.

A palace spokesman said last night that all meetings had now taken place but added: I don't know when the king will reply

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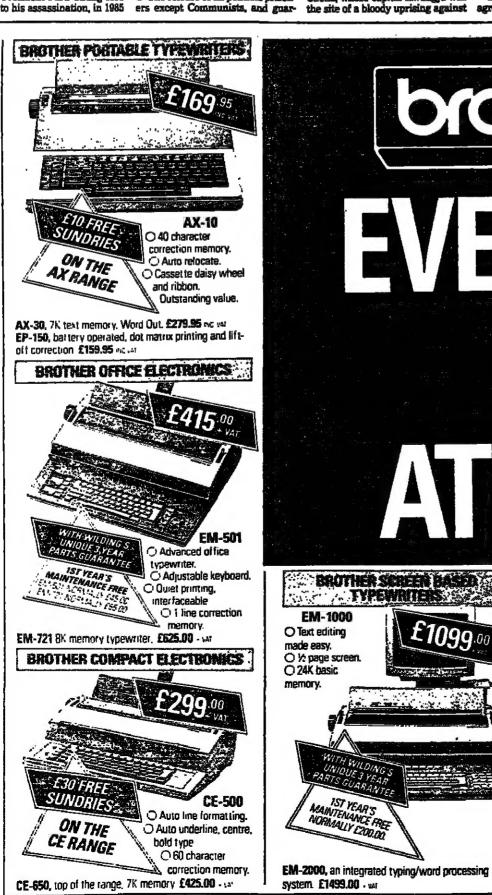
O Ideal for

or what he will say.'
Last week's resignation came
after frautic attempts to find a solution to Belgium's deep-root-ed language dispute had failed to win the agreement of all the four parties in Mr Martens' centre-right coalition.

Opinion is divided on whethopinion is divided on whether the French-speaking Social Democrats (the PLSC) will break with the governing parties to form a coalition with the Socialists or whether the present government (which also comprises right-wing liberals) can still surgine. can still survive

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EC ban on hormones in meat faces delay

By Tim Dickson in Brussels

A PLAN which could allow some European countries to delay imple-mentation of a controversial EC ban on hormones in meat production is expected to be presented to EC farm and foreign ministers in

Luxembourg tomorrow.

The idea will be put forward by Mr Frans Andriessen, the EG Agri-culture Commissioner, who has already warned member states about the international trade implications of going ahead with the prohibition, which comes into effect on January

The US, for example, has been threatening to retaliate against European products if its \$130m of meat exports (mostly in the form of offal) are excluded by the new legislation. Australia, Argentina and other non-EC countries will also be

The campaign against the hormone ban, which is also strongly supported by the pharmaceutical industry, rests on the argument that it has no scientific justification and was imposed for political mo

All member states except France (and including Britain which voted against the original decision in De-cember 1985) have now passed their own laws to conform with the EC directive. But some remain unhappy about the mechanisms which have been set up to enforce its provi-

Under the Commission's plan, individual member states would be allowed to delay their implementa-tion of the directive for a given period in order that practical problems could be resolved. An article in the legislation specifically provides for this possibility.

Were ministers to approve the idea and the French to take advantage of the facility, US anger might be assuaged since a large proportion of US meat exports go to

There is no guarantee, however that Washington, which is seeking a delay to the entire directive, will be mpressed. Indeed it is possible that the Americans may step up their re-taliatory threats later this week.

as originally planned.

However, opposition parties are still dangling the threat of an election boycott and seem likely to apply once more to the constitutional court to cancel some of the legislation.

Mr Ozal emerged the victor after a stormy session of parliament, lasting into the small hours on Saturday night, revised the election law passed in September but partially annuiled on October 9 by the constitutional court. Another indirect attack on the hormones ban suffered a setback last week when the Advocate General of the European Court of Jusuce rejected a British challenge that the original decision should natiled on October 9 by the con-stitutional court.

Despite fears that defectors from the ruling Motherland Party could endanger his ma-jority, Mr Ozal wen by 238 to 132 in the assembly when the first vote was taken. The oppo-sition parties then left the chamber and the remainder of have been unanimously approved by member states, rather than by a valified majority.

Canadian mail strike called off

Sv David Owen in Toronto

MEMBERS OF the 23,000-strong Canadian Union of Postal Work ers drifted back to their jobs over the weekend, in compli-ance with a tough back-to-work bill shepherded through Parliament by the Conservative Gov-

ernment
Announcing the decision to,
call off the 17-day old strike,
CUPW president, Mr JeanClaude Parrot said that while
he felt it would be "morally justifiable to defy this legislation",
the union would not be goaded
to taking a step which the into taking a step which the Government and Canada Post nope would "effectively destroy"

The union will continue and intensify its fight by "new, innovative and imaginative means", Mr Parrot added, predicting that The population will get rid of this government in two years but CUPW will still be there."

Under the law, all union offi-cials are compelled to order their members back to work or face stiff financial penalties. A mediator/arbitrator will now be appointed with powers to impose a settlement if initial at-tempts to help the two sides to

reach agreement fail.

The union called the strike to protest a programme to replace: union-staffed postal stations with non-union franchises as part of a government plan to erase the postal service's operating deficit, which last year to-tailed C\$129m (£60m), by 1988.

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US gives few clues on response to Iran missile attack

er to retaliate militarily against Iran following the Iranian mis-sile attack on Friday on an US-flagged tanker in Kuwaiti wa-ters.

Opinions are mixed in the Gulf as to whether the US will feel compelled to hit back at the latest Iranian provocation.
Some observers believe the US
risks serious loss of face if it
does not retaliate. But Gulf
states, including Kuwait, are
believed to be urging restraint.

Among possible Iranian targets are the missile batteries responsible for Friday's attack and the Farsi Island revolutionary guards naval base in the northern Gulf.

The US would have had no choice but to retaliate if the attack had happened in international waters while the vessel was under US naval protection. and the Farsi Island revolutionary guards naval base in the northern Gulf.

Mr George Shultz, the US Secretary of State, gave an ambiguation of the secretary of the secretary

THE US appeared to be still un-decided at the weekend wheth-er to retaliate militarily against we have decided to take action and have taken it, you will know what it is,' he said at a news conference in Jeddah, Saudi Arabia, declining to speculate on what action the US might take

or when it might come.

However, some officials, dampening speculation that the US may retaliate, noted that the attack on the 81,000-tonne Sea Isle City occurred in Kuwaiti waters and that the ship was not under US naval escort at the

MR MIR HOSSEIN MOUSAVI. the Iranian Prime Minister, began a three-day visit to his country's main Arab ally yes-terday, before an Arab summit expected to promote full back-ing for Iran's Gulf war enemy, iraq Reuter reports from Da-

hydracts said that air mon-sayl was expected to seek Syr-la's help in preventing a total Arab breach with Tebran at the summit, to be held in Am-man from Nevember 8.

possibility of military action. Freedom of navigation in inter-

indication of the importance Tehran attaches to Syria's role

Diplomats said that Mr Mou-Ai-Shara.

Mr Mousavi's visit follows a missile attack on a tanker fly-ing the Stars and Stripes in Kuwait waters on Friday.

possibility of military action. principle of our policy and, es-'Freedom of navigation in inter-pecially in that region of the national waters is a cardinal world, a vital interest,' he said

sharpening fears for the security of conservative Gulf states. The Damascus talks are the second involving senior Iranian officials in three days - an

in the region. Mr Nonsavi's deputy, Mr Ali-reza Meayeri, had talks on Thursday with Syrian Prime Minister Abdel-Rauf Al-Kasm and Foreign Minister Faronq Al-Share

discussions focused on the Gulf war and the plight of foreigners held hostage in Leba-

in his weekly radio broadcast.

A Republican congressman, Senator Gordon Humphrey, summed up the US dilemma when he said: If we do nothing, we look like wimps. If we do something, we're in even dee-

A Western official in Kuwait said the US was taking care not to be stampeded into a quick re-sponse, but he added that if there was a further iranian at-tack on a US-flagged vessel un-der similar circumstances it would be impossible for the US

to ignore such a provocation.

'These attacks, if they continue,' he observed, 'would make a nonsense of the whole escort business.'

Half Kuwait's tanker fleet of 22 ships has been reflagged and two of the tankers flying the

Stars and Strines have now been damaged: the supertanker Bridgeton hit a mine in the northern Gulf in July while un-der escort and now the Sea Isle City has been put out of commis

Kuwait has protested to the United Nations over the missile attack.

The missile inflicted exten sive damage to the ship, ripping a huge hole in its side and crashing through seven sepa-rate bulkheads.

US and Kuwaiti explosives experts have been examining the wreckage to determine what kind of missile was used in the boldest Iranian strike yet against the US presence in the Gulf.

US experts see holed tanker

By Joan Wucher King in Kuwatt

KUWAITI and American military experts went on board the Sea Isle City tanker over the weekend to review the damage following a bit by an Iranian missile in Kuwaiti waters on Friday.

he tanker is in Shuwaikh Harbour undergoing repairs which Kuwait Oil Tanker Company engineers estimate will take 35 days.

ournalists, who went aboard yesterday, saw a large hole blasted into the first floor of the tanker's accommodation quarters above the deck. rewmen aboard the ship when

the missile hit said they had been thrown 3ft by the impact. Fire spread rapidly in the ac-commodation quarters and there was heavy damage on A Deck where the missile penetrated, leaving a large gaping

Cabin partitions were burned away and the cargo control room and officers galley were gutted. The missile finally lodged in the fore wall of the

engine room. The Filipino crew will be flown home later this week. Unsurprisingly they are reluctant to return to the Gulf though they believed Sea Isle City's American flag had protected them

Shultz rebukes Shamir 'immobility' on Middle East

MR GEORGE SHULTZ, the US Secretary of State, yesterday delivered a pointed rebuke to Israel's Prime Minister Yitzhak Shamir, publicly criticising his immobility over the Middle East peace process.

In a message apparently in-tended to reassure the Arab leaders he will see later on his current Middle East tour, about the US' determination on the is-sue, Mr Shultz criticised 'those who are reluctant to explore

Ozal beats

poll date

challenge

MR TURGUT OZAL, the Prime Minister of Turkey, appears to have beaten off a challenge from opposition parties in purliament and got the country on course again for early elections, though these will new have to be held an November 1 as originally planned.

However, opposition parties

new ideas' or who 'fail to offer anything more than a status

Speaking in Rehovot, near Tel Aviv, on the second day of his visit to Israel, the US Secretary said: No-one improves the chances for peace by doing nothing at all, by just sitting around. The right-wing Israeli leader has frequently been crileader has frequently been cri-ticised for his negative stance, and Mr Shultr' visit, which ends today, has clearly done little to soften his intransigence.

In another assessment of Middle East peace prospects, Mr Shultz stated yesterday that despite thorough discussions, he could not point to anything which points to progress. Norhad he apparently made much headway in reducing the wide gap between Mr Shamir and Mr Shimon Peres, the Labour leader, over how to achieve peace talks with Jordan.

In a blow to US hopes of producing a modest degree of progress on the Arab/Israel dispute.

a group of prominent Palestin-the deposed Mayor of Hebron, a in leaders yesterday boycotted a planned meeting in Jerusalem with the Secretary of State.

Despite repeated telephone entreaties from US diplomats, none of the 10 invited guests showed up to the scheduled 45-minute meeting, leaving Mr Shultz with an embarrassing bole in his otherwise tight schedule. But diplomats at least succeeded in scotching the Palestinians' plan to send an uninvited guest - Mr Mustafa Natshe.



on the journey to Kuwait, Top Foreign Top Foreign Top Foreign Exchange Dealers **Exchange Dealers** 1980 Citibank Citibank K

Turks who were banned from voting for five years by the military regime in 1882 will now be able to vote. The ban, intended as a panishment for boycetting the 1982 referendum, expires on November.

It is assumed that most of the re-enfranchised voters will anpport the opposition. This may not, however, be a great danger for Mr Ozal.

Opinion polls suggest the Motherland Party is far ahead of any of its rivals. An opinion poli in yesterday's Milliyet newspaper, for instance, gives the Motherland Party 455 ner Top Foreign 1984

newspaper, for instance, gives the Motherland Party 45.6 per cent of the votes compared to 15.4 per cent for the second

the debate was conducted by the government side alone. One consequence of delaying

the election date is that 2.4m Turks who were banned from

runner, the Social Democracy
Populist Party.
Despite or perhaps because
of this gap the opposition parties are still doing their best to
make the election campaign

grind to a halt. Two former prime ministers, Mr Bulent Ecevit and Mr Suleyman Demirel, are believed of avour an opposition boycott of the general elections and the all-out war between Government and opposition looks like carrying on for the next few weeks.

Brazil seeks to defend debt status

BY ALEXANDER NICOLL

Mr Fernando Milliet, Brazil's central bank president, is due to meet the advisory committee of country's leading creditor banks in New York today for talks aimed at heading off a decision by US regulators to downgrade Brazilian debt.

A review committee of repre sentatives from the Comptroller of the Currency, the Federal Deposit Insurance Corporation and the Federal Reserve is due to meet a week from today. Because Brazil has paid no interest since February, the committee is likely to consider seriously whether to declare Brazil's debt "value-

impaired. This would force new losses or US banks and considerably reduce the chances that banks would agree to make any new loans to Brazil - It has requested

\$10.4bn of new money. Bankers and Brazilian officials have been meeting informally for the past two weeks. Though banks found unacceptable a Brazilian proposal put last month the two sides have been discuss ing Issues including Brazil's economic position.

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FRANCE APPEARS deter-mined to press ahead in calling for western European support spacecraft project, Hermes, This will provoke a row at an important meeting next month

important meeting next month to decide a long-term space plan for western Europe.

Mr Frederic d'Allest, Director-General of CNES, the French national space agency, said that France was not pre-

Britain, that the project was be-coming too expensive.

He scotched reports that France was about to agree to a West German plan to put off the development phase of Hermes for three years, and said he would like it to begin with 1988.

A decision on Hermes – plus A decision on Hermes - plus two other big space projects, the development of Ariane-5, an the development of Ariane-5, an improved version of the European satellite launcher, and of Columbus, a crewed orbiting laboratory – is due at a ministerial meeting of the 12-government European Space Agency in the Hague on November 9 and 10. Columbus is due to be European contribution to a 10. Columbus is due to be European contribution to a U.S. led international space station planned for the mid-1900s. France is the sace agency's total banks and the efforts to postpone Hermes polyment and easily earned terfering in the forcing that the Prime Minister not only price reforms. They are ployment and easily earned the forcing thinks that the Prime Minister not only price reforms. They are ployment and easily earned the forcing thinks that the Prime Minister not only price reforms. They are ployment and easily earned therfering in the forcing that they are ployment and easily earned therefore the country's consumers who want a more market-orient, other economy and reassure the debts. The rest, he says, should focus on many enterprises being supported by large subsidies. Free methality. Such projects have led to the country's consumers who want a more market-orient, of the seeking a long-term strategy which, they say, should focus on many enterprises being supported by large subsidies. The rest, he says, should let managers be internal development of the table into repaying the debts. The rest, he says, should let managers get on with running their enterprises.

That will mean managers be ing allowed to set their own ment and the economic development of the start cutting back on the seeking a long-term strategy which, they say, should focus on a move away from extensive to internal development of a move away from extensive to onsumers who want and the economic development of the trefinit the should start cutting back on the seeking a long-term strategy which, they say, should focus on a move away from extensive to onsumers who want and the economic development of the trefinit thems. The first thus the trefinite to

floor planned for the mid-1990s.

France is the space agency's space science and technology.

Iargest paymaster, providing roughly a quarter of its annual budget of about \$1.7bm. CNES has a budget of about \$900m, 40 per cent of which is spent through the agency.

Hermes, a ministure version of the US space shuttle which would zoom into orbit on top of an Ariane rocket, has provoked concern because of rising cost into orbit about 1993. That's

mooted three years ago.

With the cost estimates for Ariane-5 and Columbus also having rises, by about 50 per cent to roughly \$4bn for each proj-ect, agreement to all three projects at the meeting in the Hague would mean the annual agency budget soaring to about \$3bn by the mid 1990s. All three projects would be due to finish by about

Hermes would provide an inpared to agree to a postponement of Hermes to acccommodate the view of other countries,
notably West Germany and
Britain, that the project was becoming too expensive.

Hermes would provide an independent European way to
take people to and from orbit a necessity for handling the
large and complex space payloads likely to be important after 2000, he added, Mr d'Allest

To start the development phase of Columbus without do-ing the same for Hermes would phase of Columbus without doing the same for Hermes would not make sense, because Hermes would act as the supply vehicle to the crewed Columbus laboratory. France would find efforts to postpone Hermes 'politically unacceptable,' said Mr d'Allest.

The question is how and at what cost Mr Mikulic will be able to push through an economic reform package will satisfy Western banks, pacify those Yugoslav economists who want a more market-oriented.

spends each year on civilian space science and technology.

Mr d'Allest said he regretted the UK decision not to increase its subscription to the agency, but the overall effect on the pro-

mes would start taking people into orbit about 1998. That's concern because of rising cost into orbit about 1998. That's estimates, which have nearly doubled to about \$5bn since the project was first seriously a rush?"

Time running out for the Yugoslav economy

Judy Dempsey looks at the task facing Prime Minister Branko Mikulic

WHEN Mr Branko Mikulic, the Yugoslav Prime Minister, stands up in the federal assembly in Belgrade today he will be expected produce some radical solutions to the country's economic problems solutions to the country's eco-nomic problems.

His task is unenviable and al-most impossible. There are no quick solutions to Yugoslavia's economic crisis. Inflation is running at 120 per cent and cyn-ics in Belgrade quip 'at least we haven't enough time to make it to 200 per cent by the end of the

to 200 per cent by the end of the year.'
The country's \$20bn foreign debt will take several years to pay back and economic growth is running at a disappointing 1 to 1.5 per cent a year, which economists describe as stagilation of the amount in the seconomists. tion in light of the rampant inflation. Significant structural changes to the economy will be

changes to the economy will be needed to improve growth.

If these factors, which are esting into Yugoslavia's self-confidence, are not tackled, nationalism and political in-fighting will become more pronounced, exacerbating already deep social and accordance in intrinsical interests. cial and economic divisions in

to be addressed by the Prime Minister.

One of the more frustrating aspects of the Yugoslav eco-nomic system is the amount of time it takes to make decisions. Even if Mr Mikulic comes up with a package, his proposals will have to pass down to the six republics and two autonomous provinces where they will be discussed endlessly.

Branko Mikulic: facing crisis

port earnings go to servicing our foreign debt," says Mr Juri Bajic, Professor of Economics at Belgrade University, who is also a leading member of of Serbia's ruling Communist Party.

Mr Bajic, an energetic Slovene who keenly supports a more dynamic market-oriented economy, would like to see about 25 per cent of the country's foreign earnings being channelled into repaying the debts. The rest, he says, should be used for internal development.

and other economists, will have

It is therefore no surprise to goslavia as a country with eight separate communist parties, each trying to protect its own interests and power bases. The length of time it takes to make decisions affects enterprise managers as well. If there is one thing we want from Mr Mikulic it is an end to regulations, several managers commented. Instead of enterprises being

economy-oriented, they are actually blocked with administrative rules which keep changing," explains Mr Bajic. As inflation explains Mr Bajic. As inflation increases managers are increasingly preoccupied with adjusting their prices and worrying about strikes. Mr Bajic thinks that the Prime Minister should start cutting back on the elephantine bureaucracy and let managers get on with running their enterprises.

That will mean managers being allowed to set their own

In a surprise move, Albania agreed to take part in a meet-ing of foreign ministers of six Balkan countries to take place early next year in Yugoslavia, Aleksandar Lebl reports. Al-banian acceptance of the Ya-goslac initiative was contained in a letter by the Albania For-eign Minister to his Yugoslav

eign Minister to his Yugoslav counterpart last week. Bulgaria, Greece, Romania and Turkey replied positively some time age.

The decision, favourably commented on in Belgrade, is to surprising because earlier statements of Mr Ramiz Alia, the Albanian leader, have been interpreted as the rejection of the initiative and Albania has constantly condemned similar international meetings. That

period. Inflation has made it impossible to stick to that rul-

Some economists reckon the economy could be slowly turned economy could be stowy turned around by measures such as matching interest rates with inflation and introducing overall price reform. But economists are seeking

not only price reforms. They are

includes the conference on security and co-operation in En-rope in Helsinki and the fol-

low-up meetings.
It is thought that the Alba-

It is thought that the Alba-nian leadership has decided that participating in the meet-ing proposed by Mr Raif Dia-darevic, the Yugoslav General Secretary for Foreign Affairs, would not harm any Albanian interest and could improve its image as a good and co-opera-tive neighbour.

tive neighbour.

The agenda for the meeting has not been fixed, and it is likely that the meeting will be informal. To Belgrade the main thing is to start the process of normalisation and cooperation in the Balkans where disagreements and disputes abound.

built too many white elephants during the 1970s, particularly in

partial system of accountability, either in the individual repub-lics or the Yugoslav system as a As a result the Yugoslav authorities are now faced with the prospect of closing down enter-prises and risking increasing

unemployment.
If small-scale industries were encouraged, economists argue, some of the unemployment would be quickly mopped up, untapped potential, smothered by red tape, would be exploited and even those Yugoslavs work-ing abroad might be tempted to invest at home. In Slovenia a flexible Commu-

nist Party has fostered a more outward-looking and export-ori-ented economic atmosphere. In other republics, by contrast, those who apply for a licence to set up a small private enter-prise have to wait up to six months for a reply to their ap-plication. The Economic Chamber of Commerce in the repub-lic of Serbia is now insisting

that all applicants should re-ceive a reply within 15 days.

Mr Mikulic now needs the po-litical authority to say that the interests of the national economy must prevail over local in-terests and that local political

during the 1970s, particularly in heavy industry.

For political reasons the individual republics are loathe to admit these mistakes. Such "prestige" industries provided the local political elites with considerable power and the surrounding regions with employment and easily earned wages. elites must withdraw from in-terfering in the economy. These changes Mr Bajic and other economists admit will de-mand both time and change in mentality. Given the seriousness of the economic crisis in Yugoslavia, the growing consensus is that now is the time and probably the last opportunity to introduce a radical economic

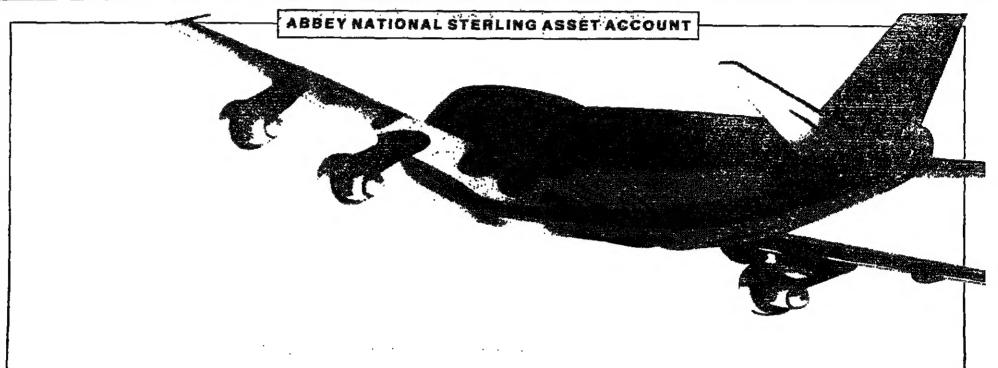
Spain scraps N-waste scheme near border

Mr Javier Solana, the government spokesman, said the plan for an underground pilot station at Aldeadavila de la Ribera in the west of Salamanca province, had been dropped because of problems in obtaining the EC share of finance. Portugai had lobbied hard in Brussies were interested in investigai had lobbied hard in Brus-sels to get the project stopped.

The Government has however active waste, and Spain would given the go-shead for the re-mainder of a long-term pro-gramme for radioactive waste tor, he said.

SPAIN HAS scrapped plans for an experimental nuclear waste project near the Portuguese border after strong protests by Portuguese officials and local 1999. Under the 40-year plan, to-1999. Under the 40-year plan, to-tal costs estimated at \$6bn are

gating granitic zones such as this for storing high level radio-



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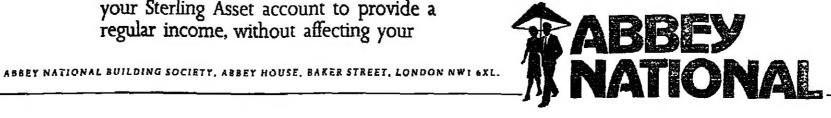
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'A' shares

0.000

In a letter to shareholders from the Chairman dated 8th September 1967, it was announced that the directors had declared interim dividends on 28th August 1987 in respect of the year ending 31st December 1987 of 19.0s per 'A' share and 3.8¢ per 'B' share and that the directors had resolved that, as to 18.0c per 'A' share and 3.6c per 'B' share, these dividends should take the form of scrip dividends to be satisfied by the issue of additional 'A' and additional 'B' shares respectively, but that shareholders should be able to elect to receive these dividends in cash in respect of all or part of their shareholdings, and as to 1.0¢ per 'A' share and 0.2¢ per 'B' share these dividends would be paid in cash to ensure that the shares of the Company continue to be Authorised Invest-ments for the purposes of the Trustee Ordinance (Cap. 29, Laws of Hong Kong). It was further announced that entitlements to fractional shares would be disregarded and the benefit thereof would accrue to the Company.

Applying the average closing prices noted above, the number of new shares which shareholders will receive in respect of their existing shares for which elections to receive respect of their existing state of their states in Hong Kong or with the Registrars' Agents in the United Kingdom by 23rd October 1987 will be calculated as follows:

Number of new 'A' shares to be received	=	Number of existing 'A' shares	×	00.00	
For '8' shares: Number of new '8' shares to be received	=	Number of existing 'B' shares	×	0.036	

and will be rounded down to the nearest whole number of new shares, fractional entitlements being disregarded. The new shares will rank pari passu with the existing shares of the Company except that they will not rank for the interim dividends in respect of the year ending 31st December 1987.

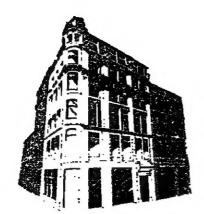
Certificates for the new 'A' and 'B' shares in respect of the scrip dividends, together with the dividend warrants in connection with the cash dividends of 1.0c per 'A' share and 0.2c per 'B' share, will be despatched to shareholders on 30th October 1987.

> By order of the Board JOHN SWIRE & SONS (H.K.) LIMITED Secretaries

Hong Kong 19th October 1987

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SAS to fly non-stop to Peking from April

SCANDINAVIAN Airline System (SAS) has won permission to start non-stop flights from Copenhagen to Peking over the Soviet Union, thereby cutting its flying time by half to 8½ hours.

These are to begin next April and be maintained for an initial period of seven months. Also, the airline plans to be

Also, the airline plans to be-come involved in a joint venture with the Swedish construction group Skanska, in the building of a hotel in Peking, and SAS already has a role in the com-plete rebuilding of the airport hotel at Peking.

It is pushing also for a contract as an outside adviser to the Chinese sirline CAAC, which wants help in expanding its domestic business because only 4 per cent of the population fly each year, said SAS.

SAS regards Peking as a very important destination in that Sweden and Norway are both eager to develop business in China.

The airline said it expects the flights to attract customers from outside Scandinavia because of their short duration. However, their short duration. However, at present a condition of the agreement with the Soviet Union is that, after seven months, the flights will have to stop in Moscow, which will mean a flight of 13 to 14 hours.

SAS has been flying to Bang-lok and has an agreement to use Thai Airways to fly passen-gers on to Hong Kong and Pe-king. This arrangement will still be used, SAS says.

The Chinese national airline,

meanwhile, is still awaiting per-mission from Moscow to fly over loviet territory to Scandinavia.

Extra tankers are beating the blockade, writes Richard Johns

Tehran keeps up its oil output

oil production at at least 2.2m barrels a day in the first 10 days of October despite the intensive air raid on Larak Island, its main transhipment termi-

nal artier this month, according to industry calculations.

A big mobilisation of chartered tankers for the shuttle run to Larak Island and for storage there has enabled it to with-stand the blockade.

its performance has also been helped by the offer of an extra 30 days of credit, equivalent to a discount of 15 cents, described by one oil executive as "a slight fraying of the edges of official selling rates".

To overcome buyer resistance in the future meanwhile Iran is reported to be making moves to secure storage facilities in West Europe and the Far East with the intention of selling crude on a delivered basis with car-riage insurance and freight paid.

Turkey exports

monthly record

at all-time

level close to or above Iran's quota of 2.369m b/d under the Organisation of Petroleum Exporting Countries' output shar-ing pact during September fol-lowing the resumption of Iraqi attacks on oil traffic at the end of August after a six-week lull in the Gulf tanker war.

in the Gulf tanker war.

So far this year it has sustained an average of 23-24m b/d and exports in the order of 1.7-1.8m b/d a fter taking into account local consumption estimated at 600,000 b/d. At the same time Iran has had to import in excess of 200,000 b/d of products because of war damage to its refineries.

Thus Iran has been able to

age to its refineries.

Thua Iran has been able to generate sufficient hard currency earnings to keep its war machine ticking over. Its level of output would probably have to be reduced to something like 1.5m bid for it to grind to a halt, in the opinion of most diplomatic observers and independent analysts.

barrels of crude including the 564.739-ton Seawise Giant, the world's biggest Ultra Large Crude Carrier, which was hit in the October 5 attack, and another eight with a capacity of 12m barrels for products.

Iraq's output surged from about 2.2m b/d in August to an estimated 2.4m b/d following

Per-barrel receipts.however, have been significantly eroded by the cost of the shuttle service and floating storage.

Since June, Iran has nearly doubled the number of tankers engaged in its hazardous transport operation from about 15-16 vessels to nearly 30, according to a recent edition of the authoritativeMiddle East Economic Survey.

Iran is reckoned to have 20 crude oil tankers and nine product carriers engaged on the shuttle between Kharg Island and Larak Island, according to the Nicosia-based newsletter. In addition, it has seven vessels providing storage for upto 20m barrels of crude, including the barrels of crude lincluding the barrels of crude, including the barrels of crude lincluding the barrels of crude lincluding the barrels of crude lincluding the barrels for products.

Iraq's output surged from about 22m by in August to an extra capacity of 500,000 b/d and a full potential of 1.5m b/d.Actual throughput in September was 1.38m b/d.

In practice, Iraq would have enjoyed only a marginal increase in oil revenue. At the end of August Saudi A. '2 and Kuwait finally terminated the arrangement dating back to early 1993 whereby they supplied Iraq with 250,000b/d of "war relief" crude from the Kingdom providing an additional 60,000 b/d of Arabian Light. Saudi Arabia and Kuwait both refused to regard the oil - notonally repayable in kind at some later date as part of their Opec quotas. To judge by their September output levels - both were in excess of their entitlements if output from the Neutral Zone is included they still see the shared territory as outside the scope of ed - they still see the shared ter-ritory as outside the scope of

SHIPPING REPORT

Idle tankers may stay inactive

By LYNTON McLAIN OVER a quarter of the tonnage of the 25 supertankers and combined carriers over 200,000 deadweight tonnes laid up and lying idle for more than two months are unlikely to trade again, according to E.A.Gibson Shipbrokers, in a report published at the weekend.

In addition, a total of 28 superior to the control of 28 superior to the control of 28 superior to the control of 28 superior than the control of 28 superior to the control of the co

TURKEY'S EXPORTS in September were an all-time monthly record of \$1.lbu, more than double last year's September figures, and close to the \$1.2bu import figure during the same month.

The trade deficit for the first nine months of the year was \$2.8bu, 12 per cent lower than the 1936 deficit in the same period. In addition, a total of 26 su-pertankers and combined carri-ers, with a total of 8.5m dwt are estimated to be in storage.

The improved export performance comes almost entirely from trade with OECD consrom trace with the Arab Middle East languishes. Most of the increase in imports came from consumer goods, which are running at about 16 per cent higher than last year. A total of 88 tankers and com-bined carriers across the whole

range of tonnage were inactive on October 15, according to the report and a total of 46 tankers and combined carriers were in

and combined carriers were in storage.

The 88 inactive vessels, with a total of 14.7m dwt this month compared with the 115 inactive vessels, with a total of 17.75m dwt, inactive in the same month last were

last year.
Very little alteration has taken place in the balance of tankers in the various sections despite the great increases in the value of vessels for scrap. Tank-

er owners are "still loth to com-mit undamaged vessels for scrapping, in anticipation of earning increased freighting re-turns," the shipbrokers said in

their commitments.

their report.
High premiums are obtainable for tanker owners willing to commit their vessels to load in the 'dangerous waters north of Ras Tanura,' in the Gulf, the company said. There have nevertheless been enormous fluctuations in crude oil tanker freight rates for large vessels operating out of the Gulf.

US to seek tighter curbs on Moscow

By Stewart Fleming, US Editor The Reagan Administration is planning to propose to its allies that the US will eliminate ex-port controls except on the most sensitive goods provided the al-lies take vigorous steps to tight-en their own controls on the ex-port of goods to Soviet bloc countries.

countries.

US officials are planning to take these proposals to 14 allied capitals in Western Europe next week. Washington wants its allies in the Cocom agreement to legislate heavier fines and prison terms for export control violations, enlarge inspection staffs and improve methods of identifying buyers in order to tighten up their export controls. It will also be asking its allies to pay a higger share of Cocom's costs.

The new proposals would also appear to be designed as a further effort to head off legislation in Congress which would

ate have moved to punish Toshi ba for its failure to control ex used by the Soviet Union to im-prove the construction of submarine propellers so as to reduce the amount of noise they make, making it harder for them to be detected by the US.

African famine fear Five African countries - Angola Botswana, Ethiopia, Malawi and Mozambique - face famine and will need large relief supplies the Food and Agriculture Or ganisation said, Reuter reports.

Serious crop failures in

Taiwan plans tariff cuts on more than 3,500 items

TAIWAN plans sweeping tariff
cuts averaging 50 per cent on more than 3,500 major imports as part of an ongoing programme of trade-policy reform that will mean increased sales opportunities for foreign suppliers.

The finance ministry at the end of last week released a ready had their tariffs cut by

tion in Congress which would cessed food, cosmetics, toys, lion-dollar trade surpluses each ban imports from Toshiba of Ja- and medicines.

Some of the items have already had their tariffs cut by administrative flat. Such reduc-tions, however, are valid for on-ly one year, after which they must be endorsed by Parlia-ment or else revert to their orig-

The reductions will bring Tal-wan's average tariff rates down from 20 to 12 per cent, making it much easier for foreign suppli-ers to market their goods. They may also serve to lessen ten-sions with Taiwan's major trading partners in the US and Eu-rope, with whom Taiwan has

WORLD ECONOMIC INDICATORS INDUSTRIAL PRODUCTION (1980-100)

	Sept '87 129.8	Aug. '87 120.6	July '87 120.2	Sept '86 115.0	% change over previous year +5,0
ted Kingdom Jermany	Aug. '87 115.3 108.2	July '87 114.4 163.4	June '87 111.9 104.4	Aug. '86 111.3 105.8	+3.6 +2.3
y heriands an	July '87 161.7 167.3 126.0	June 187 101.2 105.6 125.3	May '87 164.5 186.5 120.6	July '86 99.0 107.5 121.3	+2.7 -0.2 +3.9

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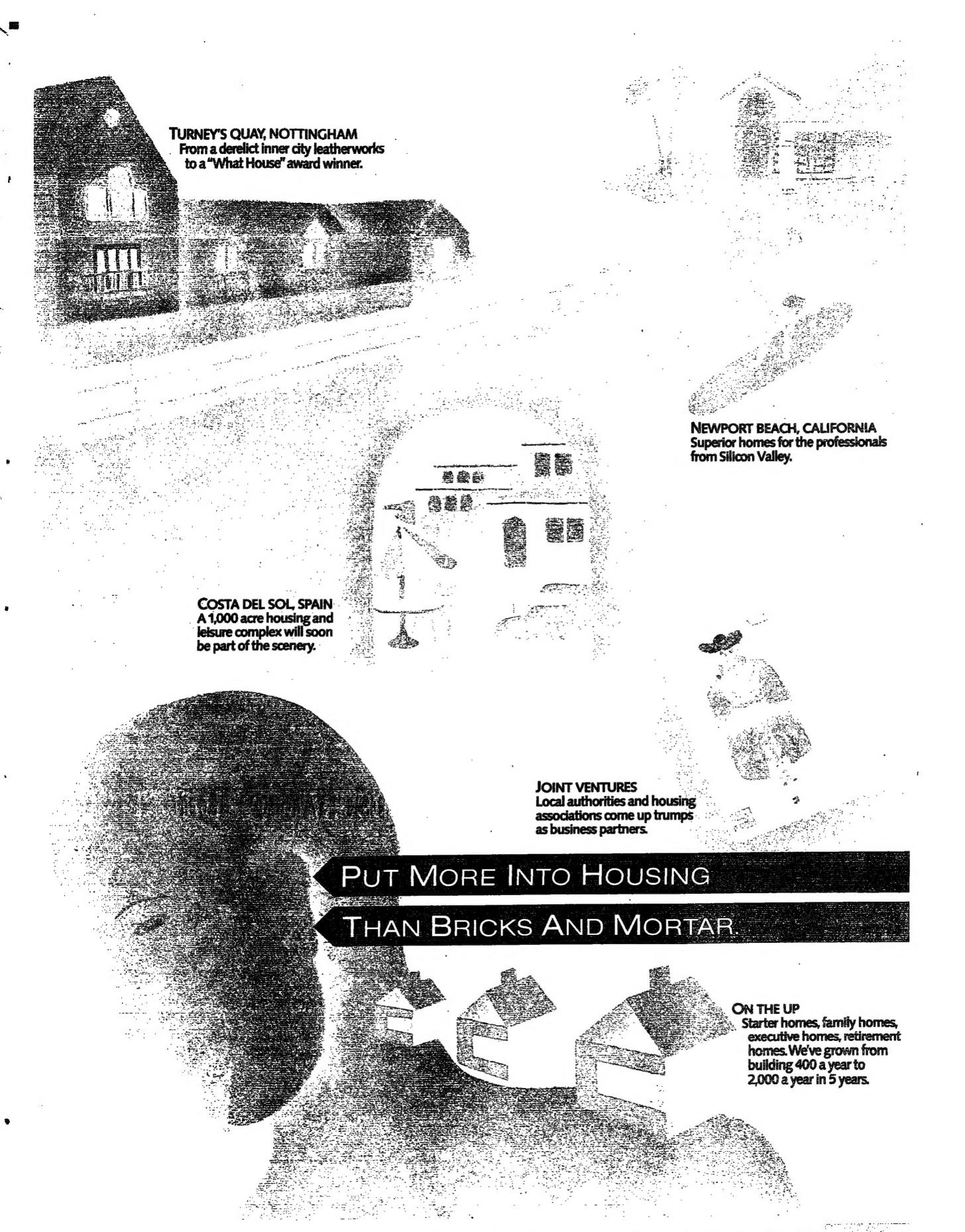
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Sal. Cocenhaira It. & Cle.

(focal Bank (Exrops) S.A. des Co. (Europe) Ltd. les Europe Ltd.

Innel S.A.

CBI warns companies over pay

By Philip Bassett, Labour Editor COMPANIES STILL face major challenges on pay and perfor-mance despite the current improvements in the UK economy, according to a presentation on pay now being put to member companies by the Confedera-tion of British Industry (CBI), the country's employers' organi-

sation.

In its annual internal exhortation on pay to UK manufacturing companies, the CBI acknowledges that with the containing of inflation, an annual rate of growth which companies to the companies of the com pares favourably with overseas competitors and a generally more buoyant economy, Britain would have done better still if its levels of pay and labour cost increases had ben more in line

with competitors.

The CBI says that while settlements have been spread over the past 12 months, average earnings increases have remained high - nearly doubling since 1980, and rising far faster than those of Britain's economics.

ic competitors. The CBI forecasts that real incomes will continue to rise over comes will continue to rise over the coming year. It says there are "still plenty of challenges on pay and performance in the year ahead".

Manufacturing industry has to contain its labour costs, and the CBI says that in the whole economy, we have to bring down the increase in unit labour costs by improving productivity, which has lagged behind the manufacturing sector, (or) by lower earnings increases, or some combination of the two."

Banks move to restore order

By Our Financial Staff AFTER THE suspension of the AFTER TME suspension of the interbank clearing systems on Friday because of the violent weather, the Bank of England and the four UK clearing banks yesterday agreed to work on the basis of the following general principles to help provide an orderly market today. The banks agreed:

banks agreed:
To extend interest rates on loans, deposits and certificates of deposit maturing on October

of the post in maturing the conservation of the post in the same appropriate rate in the absence of a market rate where one needs to be determined; That bills maturing on October 16 will be paid on October 19 and Treasury bills due to be taken up on October 16 will be paid for on October 19.

Celltech expected to make big international placing

announce plans to raise tens of millions of pounds through an international share placing.

The proceeds will be used to fund the company's development from its origins in research to become a fully fledged bio-pharmaceuticals business - making it a drugs company specialising in biotechnology which not only devises new products but also manufactures them in bulk and markets them.

The placing represents a milestone for a business which was started only seven years ago as a belated British response to the new biotechnology industry that sprang up in the US in the 1970s.

Celitech does not have a stock market quotation. Its major shareholder is British & Com-monwealth Holdings, the finan-cial services and industrial holding company, with 36.5 per cent of its equity.

CELLTECH, Britain's leading specialist blo-technology company, is expected this month to announce plans to raise tens of millions of pounds through an Investment Management. The company's staff accounts for 3.5

The proceeds will be used to per cent of the shares.

Fund the company's development from its origins in research to become a fully shares from the issue but the liedged bio-pharmaceuticals company is also expected to place shares with new investors in the UK, Europe, Japan and

the US.
Its lead adviser will be Baring Brothers, the company's merchant bank, while brokers to the issue will be Wood Mackenzie. The US adviser will be Hambrecht & Quist, the venture capital and investment banking

Such a large private placing suggests that the company is unlikely to float on the London Stock Market for some time, although it is expected to go for a quotation eventually, in part to give shareholders an easy means of trading their investment.

ment. Last August Biotechnology In-

vestments, the N.M. Rothschild trust specialising in biotechnology and health care shares, sold its 9.4 per cent investment in Celltech for £19.2m . At that

celltech for £19.2m. At that price, the whole company would be worth about £100m. Celltech was set up in 1980, with £12m of funds from City of London and government sources. It specialises in work on monoclonal antibodies, a versatile new type of pharma-ceutical ingredient.

ceutical ingredient.

The company is the world's leading bulk manufacturer of monoclonals, which it makes under contract for use by drug companies. But with the help of the funds from the placing, Celtech aims over the longer term to use its production facilities to make its own drugs in bulk. It aiready has significant ties with both the US and Japan through cooperation agree-

with both the US and Sapan through cooperation agree-ments with pharmaceutical companies. One important joint project involves cancer re-search with American Cyanamid, the US chemicals and drugs

ipany. Management, Page 16

Minister studies novel plan for privatisation of electricity

MR CECIL PARKINSON, the Industry Secretary, is considering a novel time bomb' scheme for privatising the Central Electricity Generating Board (CEGB). The aim would be to sell the organisation as it stands but with a year to 18 months of each other. ganisation as it stands, but with a provision to break it up within

mise between Mrs Thatcher's not be able to achieve the same insistence that electricity must be privatised in this Parliament the recent appeals to 'popular and the wish to introduce a more competetive structure into the industry when it is sold.

Ministers have been advised that is would be difficult to break the CEGB into a number of competing generating companies and to sell them within the time set by the Cabinet.

The main obstacle is that it.

each other.

Since some of these compa-nies would probably have to be perhaps five to seven years.

The idea is being explored by ministers as a possible compromise between Mrs Thatcher's insistence that electricity must be privateed in this Parliament the recent appeals to "popular and the with a introduce a santialized for the Parliament of the recent appeals to "popular and the with a introduce a santialized for the Parliament of the recent appeals to popular and the with the introduce a santialized for the Parliament of the recent appeals to popular and the with the introduce a santialized for the Parliament of the private of the parliament of the parliament of the parliament of the parliament of the private source of these companies would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups, the Government would probably have to be sold to existing private sector groups.

break the CEGB into a number of competing generating companies and to self them within the time set by the Cabinet.

The main obstacle is that it would take a long time to develop proposals for breaking up the electricity supply industry tricity privatisation, some ministers believe the "time bomb" (at replacement cost). Even if shareholders, because of the this planning stage could be

alignment of shareholdings lat-

Although a privatisation offer which included proposals for an eventual break up of the CEGB might be complex, some ministers believe this might be a price worth paying for introducing competition.

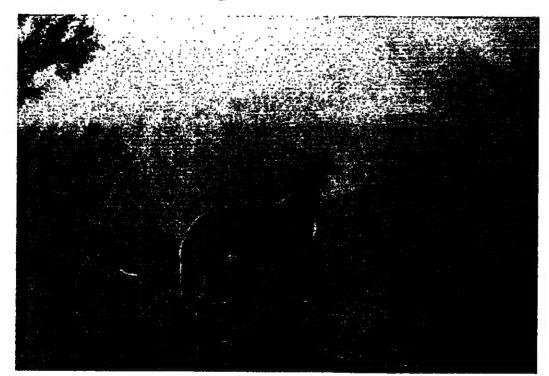
It might also make it easier to regulate the industry because it is generally agreed that the reg-ulator must have stronger pow-ers if he is dealing with a mo-

Mr Parkinson and his officials have asked for extra time to complete their plans because of the complications of the indus-try, and uncertainties about how nuclear power would fit in-to a privatised structure.

It now seems that a final decision may not the put to the Cabinet before February or March, although Mr Parkinson will need to have a fairly good idea by the New Year of what he is going to suggest.

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BT productivity among lowest in West, study says

for

PRODUCTIVITY LEVELS at Ritish Telecom are among the lowest recorded among Western telephone service operators, while capital investment by the UK group has lagged behind theicommunications companies in recent years.

Those are two conclusions in recent years.

Those are two conclusions emerging from figures in an Organisation for Economic Co-operation and Development report on telecommunications policy among the leading Western industrial nations.

The study shows that BT has a long way to go in reaching its stated target of becoming a top Tekeo' one of the leading international telecommunications companies within the next five years.

In particular, the figures suggest that BT, up to 1985, when the sindy breaks off, had unusually high operational costs. It also lagged well behind most other companies in the efficiency of its work force.

The report warns that it is not easy to give a precise comparison of the performance of telephone service providers because of different accounting, and subcontracting practices, as well as exchange-rate movements. But it says the figures are useful in Most other contents to price and exchange, rates, amounted to \$427 per main line, gainst less than \$1000 a line in 1974 was conding of \$559 a line in 1974 to 1985, while in 1975 to \$9 in 1985, other crease for the change in UK costs over the 11 years to 1985, but they show that in most other countries, operational expending the network or by trimming the workforce, or a companies within the next five years.

The report warns that it is not erease the number of lines it was the UK has made some progress, increasing the number of main lines per employee from \$2 in 1975 to \$9 in 1985, other countries, one of the performance of telephone service providers because of different accounting and subcontracting practices, as well as exchange-rate movements. But it says the figures are useful in showing broad differences and relative shifts in performance over time.

On that basis, the UK spent more in 1985 on running each of its lines tha

Tax 'aid' for BP share sales **overseas**

By Tom Lynch

OVERSEAS BUYERS of EP shares will be "subsidised" by the British taxpayer to the tune of up to 250m, says Mr Gordon Brown, the shadow Chief Secretary to the Trea-

Chief Secretary to the Treasury.

He said foreigners and British tax exiles would be entitled to the same benefits as domestic buyers - a discount of £210 on every 1,000 shares, a loyalty bonus worth £330 and entitlement to full dividends from February 1988.

In a letter to Mr Nigel Lawson, the Chancellor of the Exchequer, Mr Brown says: Tens of thousands of foreigners and tax exiles will now be in a position to get a preferential allocation of shares at the cheaper fixed price available to individual British investors.

to individual farman investors.

"The British taxpayer will be subsidising the already wealthy share-owners in countries like Liechtenstein to the extent of some 2540 for every 1,000 shares applied for."

We Brown predicted that

Mr Brown predicted that the foreign stake in BP would grow from 7 per cent to about 20 per cent. Special report on BP, Pages 16-18

High house prices main obstacle to job moves, report finds

MORE THAN half the managerial and professional staff who
decline to move home for work
purposes blame high housing
costs, a survey of more than
6,000 employees has shown.

Almost 40 per cent of those
surveyed said they would be unwilling to move to London, compared with one in three who
ruled out Scotland (usually
specifying the Glasgow area).

Of the survey respondents,
and a comparison study of 25
of the sponsoring organisations,
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of the survey respondents,
all 6 per cent had moved home
for a job-related reason during
the previous 10 years. However,
another 30.1 per cent had decidagainst a move during the
same period and 25.6 per cent
said they would refuse to move
for their next promotion.

The report concludes that employers are falling adequately
to address difficulties of staff
mobility, typically reacting in a
knee-jerk' way by improving
can relocation incentives.

"Faced with a mobility problem, such as house price differentials, firms tend to look sideways at other firms for an
answer, rather than evaluating
their own practices and talking
with their own mobile and potentially mobile employees, the

Inspectorate International Ltd.

Notice to holders of:

Warrants issued by Inspectorate International Ltd. with the US\$ 75,000,000 31/2 per cent. Guaranteed Bonds due 1993 of Inspectorate International Finance N.V.

and to holders of

B Warrants issued by Inspectorate International Ltd. on exercise of the A Warrants issued with the DM 200,000,000 2 per cent. Bonds due 1992 of Inspectorate International Finance N.V.

The Board of Directors of Omni Holding Ltd has resolved on 12th October, 1987 to recommend to the Extraordinary meeting of Shareholders of Omni Holding Ltd called for 30th October, 1987 for the purpose of deciding the increase in the capital of Omni Holding Ltd to offer to beerer share and bearer participation certificate holders of Inspectorate International Ltd. ("Inspectorate") subscription rights to subscribe bearer shares of Sfr. 500.00 par value in Omni Holding Ltd (the "Shares"). Such rights will be offered in conjunction with the initial public offering of shares in both Switzerland and internationally and at an exercise price which will be the same as the initial offer price per Share. The offer price of the Shares will be determined on or affer 2nd November, 1987.

The subscription will be attributed as follows:

ii) One Share for every 10 bearer shares of Inspectorate;
 iii) One Share for every 50 bearer participation certificates of Inspectorate.

In order for holders of warrants issued by Inspectorate to obtain such subscription rights it will be necessary for such warrant holders to exercise their warrants into bearer participation certificates of Inspectorate prior to 5th November, 1987. Subscription for the Shares is only possible by handing in the next coupon appertaining to the relevant shares or bearer participation certificates. The subscription rights will be traded.

In accordance with the terms of the respective warrants, there will be no

Notice of the offer price for the Shares and procedure for exercise of the subscription rights will be given as soon as possible after the determination of the offer price of the Shares.

19th October, 1987

X Swiss Bank Corporation

Support urged for electronics industry

electronic-component imports rose from 34 per cent of the UK market to more than 50 per cent while the trade deficit in these products increased eightfold from £77m to £604m, says a report by a sub-committee of the National Economic Development Council.

National Economic Development Council.

The committee combines its study with a plea for continued government support for the section. It says investment in integrated circuits is important because they are the key to maintaining UK equipment makers' international competitiveness.

The report is timely for the electronics industry because of whitehall talks, on government funding for technology recombined in the second that a sustained programme of research and development is essential.

place the Alvey programme, the five-year scheme to bring com-panies and universities togeth-er on projects to improve basic

electronics technology.

Britain's position in integrated circuit technology, particularly chips made from silicon, the most widely used

The report emphasises the role UK companies must play in the industry's development but emphasises that government commitment is important to:

Help semiconductor-makers play a part in joint European research initiatives.

It says the industry its part by developin alised strategy which able, and has tried t

It makes little reference to the industry's trade deficit be youd noting that the deteriora-tion in the figures has been a



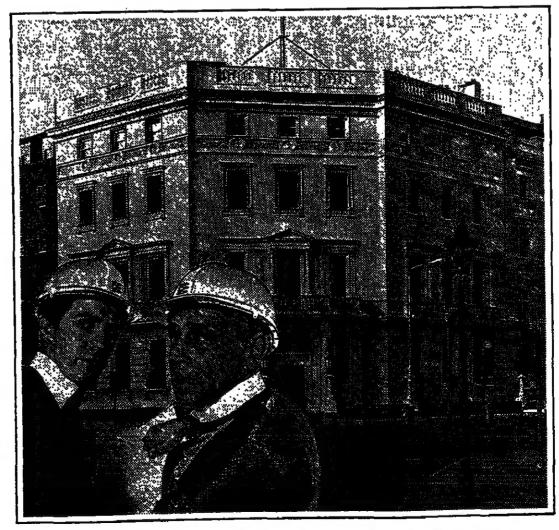
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Bridget Bloom examines the extent to which farms were damaged by Friday's storm

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THE HURRICANE winds that carved their destructive way through the English countryside

from the Kent and Sussex coast horthwards into Norfolk has spelt a weekend of despair for many farmers.

One of them, Mr Tony Taylor, manager of a 1,300-acre farm in the wooded hills of south-west

Surrey, said yesterday. It will be months, not days or even weeks, before we can properly assess the damage."

That part of Surrey, like other wooded rather hilly areas in the south and south-east, has been

south and south-east, has been severely hit. Of the 1,300 acres farmed, 300 are arable and grassland and 1,000 are mixed woodland. They stretch from Hambledon in the west through Hascombe Hill and to Bramley just south of Guildford in the east.

Fences are down, grazing sheep have escaped and winter barley on the lower land is flooded. Much of the barley has been swept down the hillside by the torrential, near horizontal.

rain that accompanied Friday morning's storm.

morning's storm.

Much of the 1,000 acres of woodland is devastated: 30-year-old larch plantations are flattened with huge trunks criss-crossing each other in a dense jungle that has pulled down and buried electricity py-

lons.
Ancient deciduous woods full
of beeches and sweet chestnuts
have been particularly seriously damaged. Mr John Burgess,
who has a 20-acre slice of sandy

Ordinary shares of 5p each Preference shares of £1 each Record Holdings pic, based in Sheffield, is principally engaged in the selling and manufacturing of hand and bench tools.

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19 October, 1987

Kew suffered tree less but farmers have other werries to

hillside, once heavily wooded, edging Mr Taylor's farm, has lost at least 150 trees. Locals say some of the finest beeches and oak in Surrey are corpses on Hascombe Hill.

A straw poll of farmers from Sussex, Surrey, Hampshire, Suf-folk and Norfolk yesterday highlighted the capricious na-ture of the storm. To some it was an annoyance; to others, particularly those with substantial woodland, it was a near disas-

ter.

Nost affected farmers have spent the weekend coping with the immediate problem of access to both farm and house and

making stock and electricity supplies secure. Assessing the real extent of the damage and its costs will come later.

For some farmers, the damage was mitigated either because they had their own emergency power supplies of because the harvest was in.

Nost dairy farmers, for example, have emergency separate

ple, have emergency genera-tors. While milking is much slower, the real problem after the storm has been getting the milk away, particularly from farms down lanes or drives now blocked by trees. Many farmers with cattle, pigs or poultry have suffered either because build-

damage to field crops has been relatively slight. Some farmers have seen their standing forage maize flattened. Wheat and barley, however, have been harvested, and sugar beet, which is low in the ground, has been largely unaffected.

The main difficulty for East Anglian farmers, apart from the destruction of trees and buildings, has been the torrential rain that the storm brought in

One farm and horticultural enterprise in south Norfolk had only just drained 150 acres of arable land which were under water as a result of August's heavy rains. Now 100 acres are flooded again. In a neighbouring Norfolk farm, a six-acre plantation of poplars has only three standing.

The consensus seems to be that the sodden ground, together with the wet summer which encouraged the development of root deaths, has made many trees an easier target than they might have been. They also went more readily because the sap was still high, which meant that the trees bent less easily with the wind. Thirdly, the full leaf cover of most trees gave the wind its leverage.

After the despair, the fear for the ecology ings have been damaged or because of the failure of electricity or water supplies, as in parts
of Hampshire and of Kent.

For farmers with arable land,
damage to field crops has been
relatively slight. Some Species

One was that the huge extent of the damage, albeit in specific areas, was as yet unappreciated by the world at large.

For many farmers, and for small landowners such as Mr Burgess, the physical task of clearing up is simply too much. It may be early days, but there is no sign of help - beyond that of minimal road clearing - from local or rentral government, even though many of the affected areas have been declared as having outstanding natural beauty and are favoured by walkers and riders.

Also of concern is the longer-term effects of the storm on the landscape. Much has been heard of the devastation to Kew heardens or St James's Park, for example. But for the landscape, it is not just the absence of ma-ture trees which is worrying. (Some are already saying the ef-fect could be as bad as Dutch elm disease.)

What is most worrying farmers is the effect of the storms on the ecology of areas which depended on tree cover for their stability as well as their beauty.

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Co-op Wholesale Society profits rise slightly

BY DAVID CHURCHILL

THE Co-operative Wholesale Society, the manufacturing and wholesaling arm of the Co-op retail movement in the UK, produced trading profits of £4.9m in the first six months of this year, against £4.8m it made in the first six months of 1986.
Turnover was unchanged at

The figures were announced to the CWS's members at meetings held at the weekend in Loudon, Glasgow, and Manches-

Members were told sales growth was affected by the dis-posal of meat freezing factories in New Zealand and the sale of other interests in the UK.

These disposals are in line with the policy of concentrating CWS resources on mainstream activities, particularly the in-

creased retail interests and the support of the Co-op retail societies," the CWS said.

A big re-organisation of the CWS took place in autumn last year, with trading activities being concentrated into two divisions. These were the retail and services division and the pro-duction and property division. Turnover was unchanged at

The CWS also disclosed that the Co-operative Bank and the Co-operative Insurance Society two wholly owned subsidiaries of the CWS - were developing a

"closer relationship." This has taken the form of an increasing number of insurance policies from CIS being sold to the bank's customers, while insurance customers are offered a £10 discount if they open a Co-op Bank account.

Hotel closures blamed on shortfall in US tourists

BY DAVID CHURCHILL, LEISURE INDUSTRIES CORRESPONDENT

AN UNPRECEDENTED number of hotels closed or changed ownership last year because fewer US tourists came to Britain, the Good Hotel Gulde, published today, says. The guide is written by Mr Hilary Rubinstein and published jointly by the Consumers Association and Hodder & Stoughton. It says hotels that relied heavily on their US trade faced onerous losses. There was a sharp drop in numbers of US tourists to the UK and to elsewhere in Europe last year in the wake of the US bombing raid on Libya and of the Chernobyl accident. However, the market recovered strongly towards the year's end and recovery has continued.

over of entries than ever before, because of difficulties facing the hotel industry: about 236 ho-tels in last year's guide have been dropped, replaced by 184

been dropped, replaced by 184 newcomers.

The author says: "Hotels at the upper end of the tariff scale are still worryingly dependent on a steady infusion of dollar income. A recession like that of 1986 could happen again for one of many unpredictable reasons."

He advises the industry "to strive to give better value for money and by so doing seek to attract more visitors from the 'home' counties."

Ris guide covers 1,100 hotels

Ris guide covers 1,100 hotels in 22 countries.

rear's end and recovery has Good Hotel Guide; Consumers Association, PO Baz 44, Hertford, The guide has a higher turn-

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Cvery year, its sales have increased: from fewer than 3 million bottles in 1976 to more than 77 million in 1986.

And it has not only remained brand-leader but has taken a bigger share of the mineral water market.

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UK NEWS

CBI/FT DISTRIBUTIVE TRADES SURVEY

Retail sales growth disappoints

BY RALPH ATKINS

The Confederation of British Industry/Financial Times survey of distributive trades, published today shows 58 per cent of the 294 retailers questioned reported an increase in sales volume compared with September 1986 while 14 per cent renarted a decline.

A stronger performance is forecast for October but the survey has recently shown a ten-dency to overestimate future sales growth. If September's re-sults are included, retailers ex-pectations have been frustrated in seven out of sine months this

The latest results follow offi-cial figures for retail sales vol-umes which suggest that Britain's long-running surge in high street sales is continuing into the Autumn, although prob-ably at a slower growth rate. Figures published by the De-partment of Trade and Industry showed an increase of nearly 1 per cost in retail sales is As-gust.

Mr Nigel Whittaker, chairman of the survey panel, said a rise in sales had been predicted for September as better weather brought people out to the shops. "Sales did not increase as much as had been anticipated, but

For October the survey shows panies selling parts and accessablance expecting an increase sories were more optimistic in sales volumes compared with

HIGH STREET sales growth im-proved in September after a those expecting a fall, was +55 disappointing performance in per cent This compares with a the previous month, but the in-crease was not as great as re-tailers predicted.

the same month last year, minus per cent This compares with a balance of +52 per cent predict-ing a rise in September and +60 per cent in August.

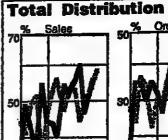
Stores selling durable house-hold goods, including freezers, cookers, hi-fi equipment and, television sets, were most opti-mistic with 84 per cent of those questioned expecting sales to be higher in October than the same month a year ago. Furni-ture, earpet and household tex-tile stores also expected to do well.

For wholesalers, sales in September comfortably exceeded expectations. Out of 186 wholesalers questioned, 80 per cent reported an increase compared with September last year and 7 per cent sald sales had declined.

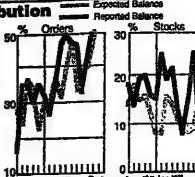
A balance of +51 per cent of wholesalers reported sales were good for the time of year-the highest balance since the survey began four years ago.

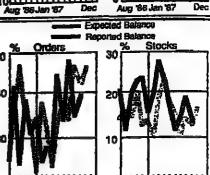
Further growth is predicted by wholesalers in October, al-though at a slightly slower rate. Wholesalers of food and drink, and durable household goods were the most optimistic about both September and October,

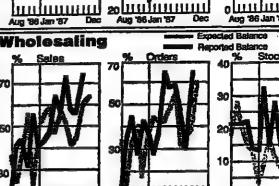
els in September were slightly
els in September were slightly
higher than expected. A balance of +28 per cent reported a
rise compared with September
1936. Further increases were
predicted for October but comrenies colling parts and acces-



Retailing







10 111 111 111 111 Dec

Fresh fall

Savings

By Huge Discon

in National

NATIONAL SAVINGS showed a

net cash outflow of £57.5m in September - the second succes-sive month during which it has failed to attract more funds from small investors than have been withdrawn from its ac-

Nuclear waste clash expected

BRITAIN WILL be among a number of developed countries that will this week resist international moves to outlaw offshore dumping of nuclear waste.

The clash will occur at a meeting in London of experts from several countries belonging to the 62-member London Dumping Convention. The meeting will be attended by Greenpeace, the environmentalist group that last week has recenting the residual that the convention of the meeting will be attended by Greenpeace, the environmentalist group that last week has recenting the form the Netherlands in the from hospitals, research establishments, the pharmaceutical industry, and nuclear power stations.

At this week's meeting, scientists will start processing the results of questionnaires distributed to member countries on policies, regulations and public attitudes on a wide range of civilian nuclear issues.

The UR's current policy is that while international views international and domestic opinion. The waste is mainly main available.

DOWLY BOTOL, part of the acrospace division of the Dowly group, is to collaborate with the US General Electric company on the design and production of fan blades for the revolutionary GE unducted fan engine.

is expected early this week.

Dowty joins GE in fan design project

The engines have potentially much improved fuel economy compared with current turbofan engines and are expected to be used on the next generation of medium-size civil atriners.

Designs are being considered, by Boeing and McDonnell Doug-

counts.

The figure was marginally better than August's, when National Savings experienced a net outflow of 251.2m.

However, it reinforces the pattern of recent months, in which National Savings has been offering lower rates than building societies to small investors.

vestors.
Fixed-interest certificates
and index-linked certificates
continued to bear the brunt of
the withdrawal of funds, experiencing net cash outflows of
\$116.7m and \$44.8m respective-Ŋ.

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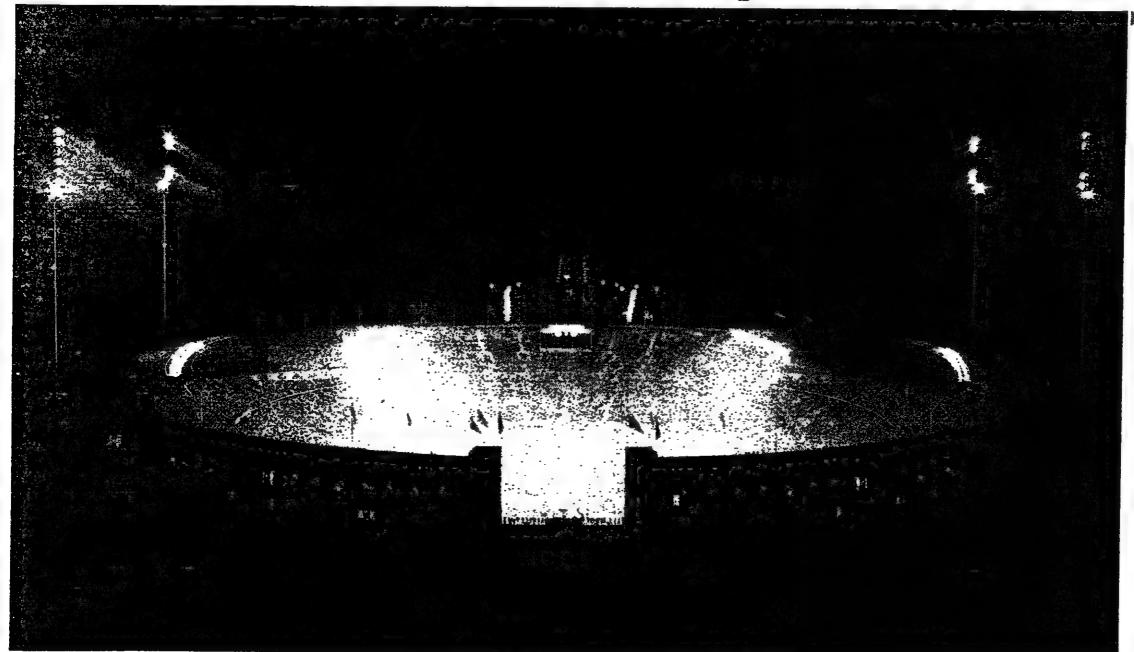
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There's a power failure - but nobody has even noticed.



The city of Berlin has to cover its electricity requirements with its own power stations and cannot fall back on the European grid to cope with peak demand. AEG designed and built the world's first and largest (17 MW) battery storage system in commercial use. It feeds standby power into the Berlin mains in a traction of a second - without pollution.

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haps the most advanced in the world, now supplies over 100 satellites and space probes Our solar technology, perwith power. We will also be responsible for the solar power systems for the most important European astronautics projects: the EURECA and the manned spacu laboratories of the COLUMBUS program. Both will have solar energy systems from AEG.

AEG's grouped networking is contributing to the economic use of the radio bands. Radio channels are bundled and managed by a computer, then allocated to subscribers as required. Communication bottlenecks are a thing of the past. This technology offers a number of characteristics not found in the usual radio networks. Grouped networking from AEG - already in successful operation in Schiphol airport Amsterdam and under construction in Frankfurt.

The Federal Air Traffic Control Authority (BFS) is already monitoring a million pare for the volume of traffic expected at the turn of the century, AEG is also supplying the equipment for the new aeronautical telecommunication center in Frankfurt and the new transmission network, which will allow the data of air traffic control messages in Germany to be passed to BFS control stations throughout the country.

AEG

Just because you're small, it doesn't mean you can't be powerful.

L Mighty Mouse

If you thought this first section was going to be a regurgitation of that old chestnut about mice terrifying elephants, you can relax. As it happens, elephants do tend to be afraid that rodents might run up their trunks — but it is highly likely that the humble mouse once played a far more significant role in the history of the world.

Various theories have been put forward to explain why the dinosaurs died out 65 million years ago, such as: raids by hunters in flying saucers; a lack of room in Noah's Ark; a lemming-like mass suicide by all species everywhere at the same time; and even 'Paleoweltschmerz' (i.e. the dinosaurs became so disillusioned with their world that they died of sheer boredom).

However, a somewhat more plausible reason for their extinction is that small shrew-like mammals ate their eggs.

Being warm-blooded animals, the 'mice' were able to pursue a nocturnal way of life, whereas the cold-blooded dinosaurs, whose body temperatures depended on the outside environment, could not. The rodents could therefore have devoured their unguarded eggs with impunity, depleting their numbers until they died out completely.

2. They trots.

一日 一日

There are many more examples of small but powerful creatures in the modern animal world. In relation to its size, an ordinary house spider can run eight times faster than Ben Johnson. A flea can jump 130 times its own height. An ant can pull a load 300 times its own weight.

Yet perhaps the most impressive example is that of the Palabella horse.

Derived by crossing Shetland ponies with small English
Thoroughbreds, Falabellas stand only 24 inches high. However, they
run so fast that, over a short distance, they can beat a full-sized
racehorse. For their size, they can leap far higher than the leading
showjumpers and they are also exceptionally hardy.

These qualities are shared to varying degrees by other miniature breeds. A Shetland has been known to carry a twelve-stone man for forty miles in one day, while a twelve-inch high golden foal recently survived falling down a steep fifteen-foot bank shortly after being born.

(Why this foal should then have been called Lucky' is a mystery.)

3. The lowest of the low.

The twentieth century has certainly had its share of small and belligerent men — Hitler, Mussolini and Alan Ladd to name but three. However, the person who has come the closest to being a twelve-lnch ruler is Attila the Hun. He is thought to have been a dwarf.

Also known as 'the scourge of God', Attila was king of the Huns from 434 to 453. For a time he ruled jointly with his elder brother Bleda (who was actually quite a big Bleda by comparison), but he found this rather tiresome and he murdered him in 445.

His hordes then massacred, looted and burned their way across eastern Europe and finally assailed the Roman Empire. He was defeated once — in Gaul in 451 — but he promptly invaded northern Italy and

occupied the imperial palace in Milan, where he had all the paintings altered to show the Roman emperor kneeling at his feet instead of vice versa.

Attile died two years later while making love. It is possible that

Attila died two years later while making love. It is possible that his diminutive stature contributed to his demise — but history unfortunately does not record whether or not he was standing on a box and fell off.

4. Le petit capora

No one had as great an effect on Europe again until Napoleon Bonaparte came to prominence at the end of the eighteenth century. In 1795, at the age of 25, he was in charge of the French army of

the interior. He then led the French forces in Italy to brilliant victories over the Austrians, became First Consul for life in 1802, set up what was effectively a military dictatorship and had himself crowned Emperor in 1804.

In defeating the Austrians, incidentally, he also defeated the hero of our first section. The Austrian generals became so desperate that they inked a

became so desperate that they inked a mouse's feet and placed it on a map to see if it would trace out a path to victory.

It didn't.

Yet without his wellingtons on.

Yet without his wellingtons on,
Napoleon was only five feet six inches tall
himself. It is true that he looks impressive
in our picture, which shows him crossing
the Alps in 1800, but this is a highly
idealized portrait. (For one
thing, he actually crossed
on a mule.)

He was certainly
very sensitive about his
height. On one occasion, he was searching for
a book in his library when he finally spotted it on
the top shelf, well out of his reach. The tall Marshal
Moncey dutifully stepped forward. "Permit me, sire,"
he said. "I am higher than Your Majesty." Napoleon

was not pleased. "No, Marshal, you are longer," he snapped.

Eventually, of course, Napoleon's reign came to an end, with one of the earliest stages in his downfall being the series of defeats suffered by his fleet at the hands of Lord Nelson — who was only five feet two. No wonder both men wore such large hats.

5. We are not very big.

Queen Victoria, sovereign of the United Kingdom from 1837 and Empress of India from 1876, constantly lamented the fact that she was its less than five feet tall.

Strangely, her Uncle Leopold seemed to think that she had the power to rectify this if she wished. "I have not been able to ascertain whether you have grown taller lately", he wrote. "I must recommend it strongly".

Victoria did wield considerable political power,

however. In 1839, she forced the Prime Minister,
Sir Robert Peel, to resign and later dismissed the
Foreign Secretary, Lord Palmerston, for committing
the unforgivable sin of taking action without
consulting her limit.

Her close involvement with policy-making and her desire to have her own way sometimes overstepped the proper bounds of a constitutional monarchy, particularly when William Gladstone was Prime Minister. *Others but herself may

submit to his democratic rule, but not the Queen," she wrote after yet another disagreement.

Yet when the longest reign in British history finally came to an

end in 1901, the shortest monarch had restored both dignity and popularity to a crown whose future had looked decidedly precarious at the time of her accession.

"Will she be happy in heaven?" wondered a member of the royal household. "I don't know", replied Edward VII. "She will have to walk behind the angels — and she won't like that".

6. Not short of words.

Even Queen Victor

Even Queen Victoria was taller than the eighteenth-century poet Alexander Pope. He was only four feet six inches tall as a result of tuberculosis of the bone and a severely-curved spine.

Despite these handicaps, he dominated the London literary scene for almost thirty years — partly on the strength of his sheer talent (his fame was assured at the age of 23 with his 'Essay on Criticism' (1711)), and partly through his stinging attacks on his contemporaries which earned him the nickname 'The Wicked Wasp of Twickenham'.

His verbal assault on Lord Hervey in the 'Epistle to Dr

Arbuthnot (1735) is a fine example:

"Yet let me flap this bug with gilded wings,

This painted child of dirt, that stinks and stings..."

He clearly relished the power that such scathing wit brought him:

"Yes, I am proud; and must be proud, to see

Men not afraid of God afraid of me".

Another writer of the day, William Broome, did suggest that it was Pope's size that stopped many people from fighting back: "His littleness is his protection; no man shoots a wren." But others probably realised that the Wasp was at his most wicked when anyone attacked him, as illustrated by the following composition

addressed to a lady who had dared to mock his size:

"You know where you did despise

(Tother day) my little Eyes,

Little Legs, and little Thighs,

And some things, of little Size,

You know where.
You, tis true, have fine black eyes,
Taper Legs and tempting Thighs,
Yet what more than all we prize
Is a Thing of little Size,
You know where.

7. The Prime Miniature.

Two centuries later, David Lloyd George — seen here pointing out his missing inches — was using a similar sharpness with words to achieve power.

It has been argued that he was too obsessed with power for its own sake — "He did not care in which direction the car was travelling, so long as he remained in the driver's seat" (Lord Beaverbrook) — yet the facts remain that he led Britain to victory in the First World War and laid the foundations of the modern welfare state.

Like Pope, Lloyd George once had occasion to cut down someone who made a remark about his size.

The chairman of a meeting

introduced him thus: "I had expected to find Mr Lloyd George a big man in every sense, but you see for yourselves he is quite small in stature." "In North Wales," came the reply, "we measure a man from his chin up. You evidently measure from his chin down".

Margot Asquith said of him that "he could not see a belt without hitting below it". This was presumably because he could not see much higher.

8. The pocket battleship of the desert.

Another small Weishman also played a leading role in the Great War, namely T. E. Lawrence or Lawrence of Arabia. (He actually measured less than five feet six inches, but this tends to be obscured by the fact that the tall Peter O'Toole played him in the David Lean film.)

After joining the Arab army in 1916, the archaeological scholar soon became its chief organising and motivating force. He ran a guerrilla operation against the Turks, blowing up numerous bridges and trains, and in 1917 he captured Aqaba after a 600-mile march.

Further successful actions followed, and when Lawrence returned to Britain as a colonel in 1918, he was awarded the DSO and the Order of the Bath — though he declined both honours as a protest against the breaking of promises made to the Arabs. He then became a close friend and adviser of Winston Churchill, who described him as "one of the greatest beings of our time".

It should be noted, however, that Lawrence's character was full of contradictions — one of which was the need to subject himself to the power of others on occasions. For this reason, he went on to join the lowly ranks of the RAF and the Royal Tank Corps under assumed names — and also paid an admirer to whip him regularly on the buttocks.

9. The Mighty Atom.

Astonishingly, there was a third small but powerful Welshman who came to prominence at this time.

Jimmy Wilde was only five feet two inches tall and weighed just seven stone, yet he was one of the greatest fighters the boxing world has ever known.

He began his career in a fairground booth, where he once performed the incredible feat of knocking over 23 opponents within four hours. All 700 of his challengers in those early days were far heavier than him, but all succumbed to his phenomenal speed and punching nower.

Even when he turned professional, Wilde was still conceding as much as two stone to his opponents — but he kept on flattening them. His fame spread, and soon he was known everywhere not only as The Mighty Atom; but also as The Ghost with the Hammer in his Hands'

In 1916, at the age of 23, he won the world flyweight title, which he then retained for seven years and four months—a record unequalled to this day.

It is a further mark of Wilde's greatness that he is the only non-American to be rated No. 1 in the 'All-time Greats' lists of 'Ring' magazine — and in 1959 he was elected to the American Hall of Fame.

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The Japanese have always been good at producing small things, such as miniature trees and Japanese children, and the latest example of their skill is the Epson PC AX2.

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Paymasters must call a more strategic tune

COMPANIES SHOULD pursue a to take a positive role in recruit-strategic approach to pay, the ing, retaining and motivating Confederation of British Indus-staff, a number of broad stratetry says in its annual presenta-tion to employers on current pay trends in the UK at the start of the annual wage round.

In addition to emphasising the need to reduce present increases in average earnings, the CBI's internal pay presentation, Perform and Prosper, now being made to companies by CBI officials nationally and regionally contains a wealth of survey and other previously unavail-able detail about pay as em-

plovers see it. CBI figures show that 25 per cent of companies look at their pay reviews as part of their annual corporate or financial plans and 47 per cent consider them several months in advance of the settlement date. The CBI says that still leaves a "signifi-cant number" for whom forward planning on pay is apparently

gic principles, including planning and control, should be put into effect.

Skill shortages are affecting almost one in five manufacturing companies, according to CBI figures - much higher in some sectors, such as electronic goods, which is suffering a 70 per cent skilled labour short-

Across the economy, 41 per cent of companies are worried about retaining employees be-cause of the difficulty in replacing them, 39 per cent found the quality of job applicants unsatisfactory and 22 per cent reported persistent skill short-But the CBI warns strongly

against across the board pay in-creases to try to rectify the mat-ter, suggesting instead the propplanning on pay is apparently er management of differentials not the norm.

The CBI suggests that for pay that only one in three employPhilip Bassett on the CBI pay trends report that says employers need to deploy more

sophisticated tactics ers sees scope for that) and making selective pay adjust-ments (although CBI figures show that this would provoke considerable opposition from other employees)

other employees).
To help, the CBI suggests one-off bonuses and revision of pay structures and longer-term solutions, not relying on simply throwing pay-bill money at skill shortages - in particular comanies developing proper train-

ing programmes.
The CBI emphasises the increasing importance of linking pay with performance. In manufacturing, CBI findings show that 24 per cent of companies

operate one-off bonuses, 17 per cent tailor payments to company or group performance and 16

The same survey shows that per cent operate profit-sharing. In the service sector, 85 per cent of companies have adopted an individual or group-based pay and performance system, with 51 per cent making merit

payments, 34 per cent paying in-cremental salaries and 27 per

profit-sharing.

Emphasising the value of rebound on them. good communications on pay. the CBI sees as a good sign its

trade union members are now much less ready to take industrial action - as many as 55 per cent were less likely to do so now than five years ago, with only 16 per cent more likely to

cremental salaries and 27 per cent fixed bonuses.

Among the 63 per cent of service companies operating a company performance-based system, 28 per cent have employee share ownership schemes, and 18 per cent have proaches to pay, those approaches would be bound to be companied as a proaches to pay. have repercussions on other businesses, which would in turn company-wide bonuses and

The CBI's document identiown poll evidence which shows that 56 per cent of employees thought improvements to performance and profits should be with the general rate of other the main consideration in deciding pay, compared with 38 per cent listing the cost of living fies a "domino effect", with half the employers surveyed report-

Vauxhall wins another large car order

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

VAUXHALL, the General Motors subsidiary, has won another large order for vehicles from a company that has decided to concentrate on providing employees with only one make of car and changing its cars and vans more frequently. Electronic Rentals, the televi-

sion and video rental organisa-tion, is to take 3.350 cars and

vans from Vauxhall Deliveries der placed in the UK.
will begin in January. Electronic Rentals, like
Vauxhall said the vehicles or Thorn EMI, said it would make dered have a showroom value of considerable savings from the 227m, but that figure bears little change in company vehicle buy-

Rentals will actually pay.

In June, Vauxhall won a two-year order for 20,000 cars from Thorn EMI, which was claimed to be the biggest single car or-

French bank to buy 75% of Ark Securities

BY HUGO DIXON

BANQUE NATIONALE de Paris, the large French bank, is to buy a 75 per cent stake in Ark Securities, a London securities

Securities, a London securities firm, valuing the firm at between £15m and £20m.

Ark was set up last year by former employees of Quilter Goodison, a stockbroker. Since then it has had an agency agreement with BNP under which the

ment with BNP under which the bank takes a share of Ark's broking commissions. Ark specialises in European equities.

The decision to sell a majority stake to the bank was designed to ensure that Ark had sufficient financial backing. Mr Mark Hawtin of Ark said yesterday. The bank would be buying existing shares but there would also be a rights issue soon, to raise between £500.000 and £1m raise between £500,000 and £1m in new capital, and the issue of subordinated debt.

Terhans the bravest

and now. he cannot

bear to

turna

corner

man lever knew... Extra capital was needed to back Ark's growing broking business and its application for membership of the London Stock Exchange, Mr Hawtin said Ark, once it had joined the exchange, would consider whether to move into market-making in addition to agency

Ark will keep its name and four of its employees will be di-rectors; the bank will supply the other six directors.

This is the bank's latest move into the securities business. Recently it agreed to take a minority stake in du Bouzet, a French broker, and it has a majority stake in ABS White, an Austra-lian broker. It has also applied for a securities licence in Tok-





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blowing @ gole up there



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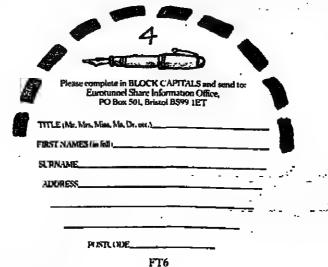
But before the grand opening (scheduled for 1993), there's another way

into Eurotunnel. Next month, Eurotannel shares will be offered for sale to the public and you as well as for train passengers and freight. can apply to be a shareholder.

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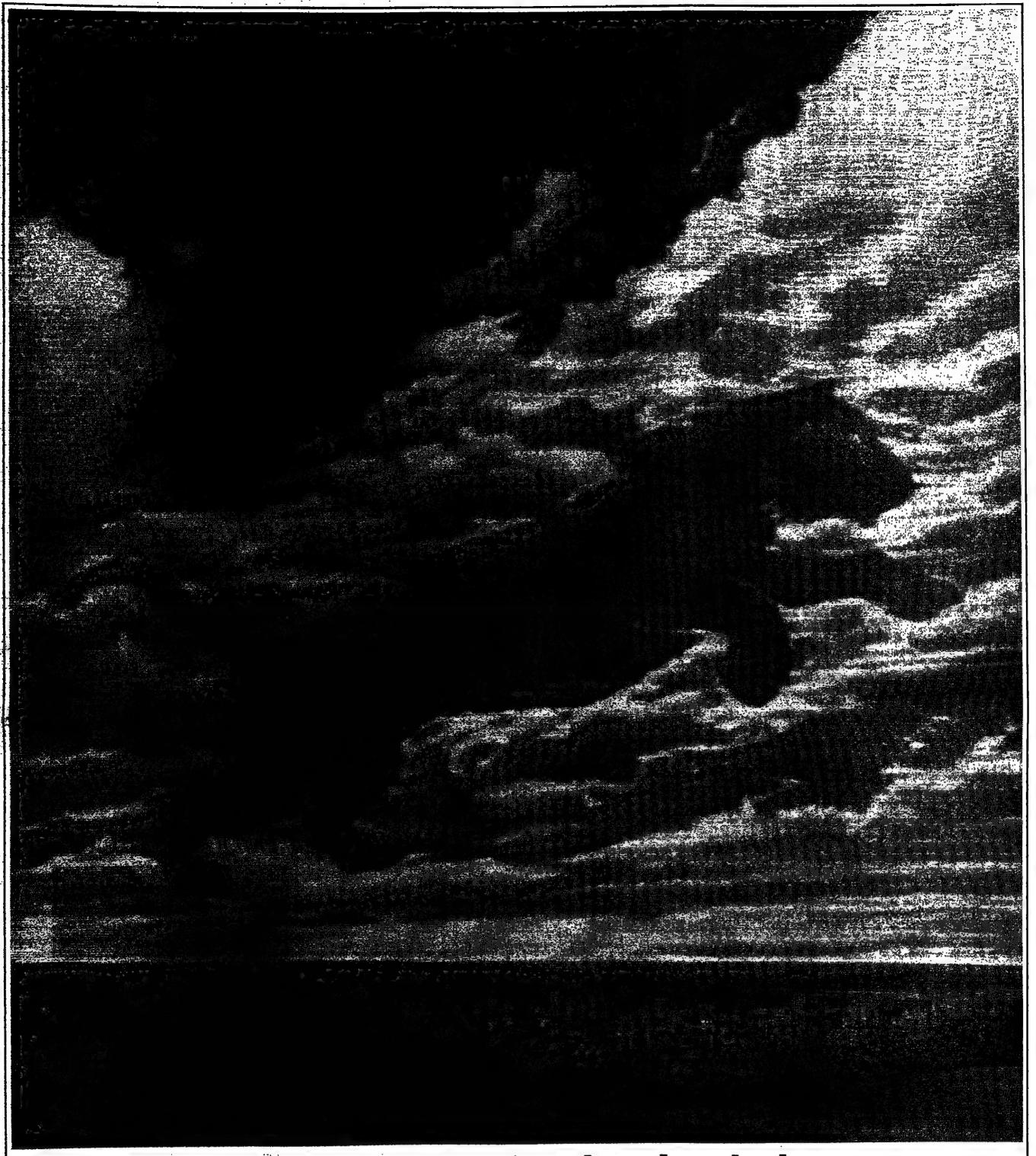
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MANAGEMENT

IT WAS THE business opportunity of a lifetime, but it also had the potential to turn into a management nightmare.

When Celltech was born seven years ago as a small, belated British rival to the new biotechnology industry which had sprung up in the 1970s in Cali-fornia, it began life with one great advantage - an exclusive cooperation agreement with the Medical Research Council, one of the world's most fertile

sources of ideas in this field.

But Gerard Fairtlough, the main architect of the company and its chief executive from the beginning, also faced an ex-tremely delicate, probably unique management task as he set about his long term goal of turning an essentially reseachbased organisation into a fully fledged pharmaceutical compa-

Could he create the kind of culture and strategic plan which would allow a business at the very frontiers of science to capitalise on its academic ties without becoming too "Ivory Towery," insufficiently responsive to the imperatives of the market-place?

market-place?
And could he create the kind
of working environment which
would attract high quality staff,
from a background of both research and the pharmaceuticals industry, to this unknown quan-tity with offices in the distinctly unglamourous environs of the Slough trading estate west of London on the M4 motorway?

How well he has succeeded will be underlined this month when Celltech is expected to announce a major milestone in announce a major milestone in its progress to becoming a bio-pharmaceuticals business - in other words, a pharmaceuticals company specialising in the biotechnology area which not only researches its own prod-ucts but also makes and mar-kets them. To fund this develop-ment, the unquoted company is ment, the unquoted company is

ment, the unquoted company is to raise large amounts of capital through a private international placing of its shares

The issue seems likely to go well, for Celitech has established itself as Europe's leading bio-technnology company and gained a strong City following no mean feat in a sector where too many extravagent, unfulfilled claims have made investors wary.

"It is an extremely well-man-aged company," says analyst Ian White of Greenwell Montagu. "They have always delivered what they said they would, and are not in the business of hyp-

ing themselves." At a first glance, Celltech's financial results might not seem napicial results might not seem to justify such enthusiasm. In the financial year to September 1986 its sales, together with joint ventures, only totalled film and it made a loss on ordinary activities of £714,000.

However, analysis suggest that its figures are rather im-

When two cultures are fused in a common purpose

Martin Dickson assesses the efforts of a key UK biotechnology company to sustain a strong research base while developing as a fully-fledged pharmaceuticals manufacturer



year that it expected to become profitable on an ongoing basis

It is not that common for biotechnology businesses to go into profit so soon, and the quality of Celltech's revenues is also quits rare: about 50 per cent comes from making and selling

It is not that common for biotechnology businesses to go into profit so soon

its own products, whereas at this stage of existence many of its rivals are largely dependent on research contracts. In this

on research contracts. In this field," says one City analyst, "it is one thing to develop a product, and quite another to manufacture it."

None of this guarantees Celltech long term success. It is still a relatively small player in an industry dominated by American companies, with Genentech of California the undisputed leader, and has yet to show it

business so young Results for the year to last month have yet to be released, but hetween 1985 and 1966 sales roughly doubled. Losses - inevitable in the early years of a start-up company of looking a lot younger, he is a this kind - fell by 50 per cent and Celltech said earlier this year that it expected to become Gerard Fairtlough Aged 57, but looking a lot younger, he is a tall, alim man with a penetrat-ing gaze, a fast and fluent style of speaking and an infectiously anthusiastic manner.

In 1978 he left a promising career in Shell, where he was managing director of the chami-cals division - many of my friend thought I was crasy - to try to put into effect his theories about the correct medicine for Dritain's industrial malaise. He joined the government-backed National Enterprise Board where one of his projects was a proposal to fund a specialist British bio-technology compa-

British bio-technology company,
His ideas happened to coincide with similar proposals from other parts of the establishment, including the Medical Research Council, which at the time was in ill-odour with the Government for its failure to petent a Nobel-prize winning biotechnology discovery of the mid-1970s - how to make monoclonal antibodies - which had been enthusiastically taken up by American and Japanese companies.

From the start of trading in November 1980, three broad

management objectives domittionally, it has set up a science nated Fairtlough's thinking, council consisting of leading One was to bridge successfully professors who look at the company's projects before serious tual suspicion, that has tradimental interest in the control of the control of

tions emanating from the MRC and its world renowned Laboratory for Molecular Biology in Cambridge. There was also strong support from the MRC to ensure that this time cooperation really worked, though in 1963 the exclusive arrangement was amended after lobbying by other drug companies and Celltech now has the more normal relationship of first option rights in cetain defined areas of the Council's work.

tent a Nobel-prize winning biotechnology discovery of the
mid-1970s - how to make monocional antibodies - which had
been enthusiastically taken up
by American and Japanese
companies.

The upshot was the establishment of Celltech, which initially
drew half its funding from City
sources and half from the Gov-

ernment (though the latter sold versity institutions, while its final 15 per cent to the pri-board includes two influential members of the Royal Society and Sir Martin Wood, the found-November 1980, three broad er of Oxford Instruments. Addi-

mia and British industry. The response of the academic world seems initially to have been distinctly mixed. Not universally to bestile is Fairtlough's downst beat description.

But the company did have the great advantage of first rights over all biotechnology innovations emanating from the IRC and its world renowned Laboratory for Molecular Parts.

ment. David Gration, the chief operating officer, came to the company via Boots and Wyeth Laboratories, a subsidiary of American Home Products.

And from the start Fairtlough adopted a remarkably open style of management, in part designed to make staff feel they belonged at the new enterprise and in part from the belief that poor communication was dangerous to a business. For example, one possibly unique policy is that after every board meeting executive directors brief employees on what was discussed.

employees on what was cased.
Such a policy might be regarded as folly in an industry where commercial secrecy is so where carrying around is absolute dynamite, says David Gration but the management insists the

system has never been abused. But while such openness may work now, when Cellitech employs about 200 people, most of them graduates, can it be maintained as the business grows? "Yes," insists Gration. "The important thing is to bring in management beneath you which agrees with the culture."

There is also a staff council.

agrees with the culture."

There is also a staff council, representing the views of the workforce, which has a significant input into major corporate decisions, including the decision to move forward as a biopharmaceuticals company.

Fairtlough's second objective was - and remains - to become a large drug producer over the

large drug producer over the long term. And his third goal, to get the company thinking and acting like a normal business rather than a research institute, was designed to pave the way for this.

From day one," he says, "we had to be committed to being commercial. Psychologically, it was very important, and as the business has grown it has become more important financially. The result has been the company's strong emphasis from an early date on identifying markets and manufacturing products - and doing so reliably and at a price attractive to buyers

Much of its manufacturing is in the field of monoclonal antibodies - the area where its MEC links should give it a natural advantage . Antibodies are a huge

family of proteins manufac-tured by the body as a defence against infection. Monoclonal ones have the ability to recog-nise specific molecules that give different cells an individu-al character. That power can be harnessed to purify natural drugs, to diagnose disease, identify blood groups and possi-bly to treat cancer by targeting bly to treat cancer by targeting antibodies to seek out and de-

antioodies to seek out and de-stroy cancer cells.

Celltech has become the world's leading manufacturer of monocloual antibodies, which it produces in bulk in Slough and exports around the world to

And from the start Fairtlough adopted a remarkably open style of management

gards this contract work as or interest only in the medium-term, giving it useful income and experience until it can use the facilities for its own prod-To make maximum use of its skills the company has also set up several collaborative agree-

measured in grammes), it re gards this contract work as of

ments with large drug compa-nies, including a project under which American Cyanamid has given it £5m for research into cancer treatment using mono-clonals, with the US company obtaining rights to the commercial products resulting from the

work.
It also has an important 50/50 joint venture with Boots, the UK pharmaceuticals manufactur-ing and retail chemists chain. Called Boots-Celltech Diagnos-Called Boots-Celliech Diagnostics, the venture was established to develop and market products based on monoclouals in the highly competitive field of medical diagnostics. This is thought to have built up sales of about £4m and has developed and marketed some 20 products - a very considerable achievement for a business just four years old. And analysts are extremely excited about one product in the pipeline - a very simple fertility test to help prevent or encourage pregnancy.

All this commercial experience will prove valuable as the group moves downstream into drug manufacturing.

The move to manufacturing

The move to manufacturing requires a great deal more capital - hence the new round of fund-raising - but in turn would greatly increase the profitability of the business. Discoveries which Celltech now has to share which Celltech now has to share at an early stage with a stronger commercial partner could be kept in-house while value was added to them. "We would take the early risk with our own money," says Fairtlough, "but the opportunities to benefit downstream would be that much greater." As for marketing, the sim is not to become a Glaxo, with a vast team of salesmen worldwide, but to pick up one or two clearly defined niche areas - such as intensive care units and licence out into other key

But Celitech is hardly alone in these ambitions, or the areas of therapy it has targeted. Will there be room in the market place both for start-up companies like it and the large drug groups which have, somewhat belatedly, started embracing bio-technology?

bio-technology?

"Yes," insists Gration. "The opportunities are limitiess," though he adds the rider that companies will have to be much more precise in targeting the niches to go for. I think there is a parallel between this industry and electronics a few years ago," he goes on. "That exploded, and the same thing will happen here."

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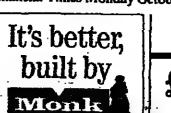
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Roadworks for John Laing

A £13.4m contract for the last remaining bypass on the A55 dual-carriageway in north Wales has been awarded to JOHN LAING CONSTRUCTION. The 2.1 miles of road around Lianfairfechan will, when completed, mean that all the towns on the road are bypassed. The A55 is the main arterial link in north Wales, joining the motorway system in England to the Welsh coastal resorts as far as Bangor in the west to Anglesey. Work on the Lianfairfechan bypass is about to start and is expected to be completed by the end of 1989. Much of the A55 has been brought up to dual-carriageway standard as far as Conway and a crossing under the river is now being constructed in such a way as not to interfere with the famous castife which commands the town. Work is also in progress on pushing the road west towards Bangor. When the Lianfairfechan bypass has been completed the far end of the road should be no futher than an hour's drive from the motorway. The authorities in north Wales the authorities in north Wales have been promoting themselves as being no father than an hour's drive from the Manchester-Liverpool connurbation and, in particular, Manchester Aircont

The north east region of WIM-PEY CONSTRUCTION UK has been awarded an £8.8m contract by William Marrison Super-markin for a distribution centre on the Wakefield 41 Industrial Park in west Yartishire. With an overall area of 39,500 sq metres the building, which includes a two-storey whilty block, will be of steel frame construction with composite wall cladding and panel rocoffing. Due for comple-tion in June 1988, the contract is the third Wimpey's north east region has been awarded by William Morrison, having previously completed superstores for the group at Rotherham and Bishops Auckland.

BUILDING CONTRACTS

£19m Glasgow hotel project

RUSH & TOMPKINS' Glasgow coffice has received more than al, the Scottish Development, agency and the Scottish Exhibition the commercial, industrial, leisure and retail areas, and much of it in joint venture development work.

The current flagship project is the 17-storey Glasgow Forum Hotels and Conference Centre. The current flagship project is the 17-storey Glasgow Forum Hotel and Conference Centre. The current flagship project existing premises are to be demonstrated completion in March 1988, The 25th and with fitting out to be completed by March 1989. The 25th project will provide Glasgow with a much needed 300-bed regional shopping centre in a Scottish Exhibition Centre. The client is Each Hotels, a joint contract due for complete the 200,000 contract in Dunfard town centre where the statisting premises are to be demonstrated town centre where the trivial provide of the project will provide Glasgow with a much needed 300-bed regional shopping centre in a Scottish Exhibition Centre. The client is Each Hotels, a joint on the comment of the project with the Scottish Exhibition Centre. The client is Each Hotels, a joint of the comment of the project with the Scottish Exhibition Centre. The complete the 200,000 contract the complete the 200,000 contract the contract in Dunfard town centre where the statisting premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the statisting premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the crossing premises are to be demonstrated town centre where the complete the £00,000 contract town centre the first all evelopment in Contract of the cont

Dealing facilities for foreign bank

SIR ROBERT MCALPINE MAN'

AGEMENT CONTRACTORS has begun work on a firm contract for swiss Rank Christiant of the firm out of the firm of the firm out of the firm out of the communication of a substantial number of dealer deaks together with extensive data and telescommunications cabling and associated services, the provision of conference rooms and a guest of conference rooms and a guest entertainment facility. A high sandard of finish is specified to the surrounding period buildings, compiled to finish is specified to blend with the surrounding period buildings, compiled to finish is specified to blend with the surrounding period buildings, compiled to finish is specified to blend with the surrounding period buildings, compiled retaining wall, foundation of the four atriums and entrance hals, carrying out duct work and conditioning system to the above and ear parking facilities.

Coatbridge leisure development

An advanced leasure centre development has been awarded to NORWEST HOLST PROJECT and water, minimising barriers between the ice and water, minimising barriers between the two.

Physical slotteness between the project activity such as Olympic swimbrick Associates have wen the prime importances allowing all ice from the construct development at Coatbridge, Scotland, beating several other shortlisted D & C packages entered by other construction compenies.

The conceptual form is an enclosed landscape following the natural sloping topography of the site. The centre is bisected creating a frozen arctic climate on one side and tropical lagoon on the other each with its own contrasting effect on the landscape. The design creates a unit is length and a side and tropical lagoon on the other each with its own contrasting effect on the landscape. The design creates a unit is length and a side and tropical lagoon on the other each with its own contrasting effect on the landscape. The design creates a unit is length and a licelity solit inside and its own contrasting effect on the landscape. The design creates a unit closeness between the ice and water, minimising barriers between the two.

Physical closeness between the ice and water, minimising barriers between the two.

Physical closeness between the ice and water, minimising barriers between the two.

Physical closeness between the ice and water, minimising barriers between the two.

Physical closeness between the ice and water, minimising barriers between the two.

Physical closeness between the ice and water, minimising barriers between the two.

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The undersigned initiated this transaction, assisted in the negotiations and served as financial advisor to SICPA Holding S.A.

Sinclair & Valentine (Deutschland) GmbH

UK APPOINTMENTS

Bank of Scotland directors named

castle Breweries and a member of the CBI Scottish Council Mr Reid is chairman and chief executive of Shell UK and a coun-eil member of the CBL

> Mr Iain Burns will join ABACO INVESTMENTS as group fi-nance director from October 29. The appointment follows the move by Mr Rusty Ashman to British and Commonwealth as

Following the acquisition of HILTON INTERNATIONAL by Hilton international by Ladbroke Greup, Mr John Jarvis, a Ladbroke director and executive chairman of its hotels division, becomes chairman and chief executive of Hilton International, and Mr Michael Hirst, also a Ladbroke director and managing director of its ho-tels division; an executive di-rector Mr Helmut Hoermann, president and chief operating officer of Hilton International. will continue in this role.

Mr Christopher McCann has been appointed a director of COUNTY NATWEST and COUNTY NATWEST VENTURES, its development and venture capital subsidiary: He was formerly senior vice president, Barclays Bank of New York

J. SAINSBURY has made Mr Ivor Hunt departmental direc-tor, marketing services. Mr Bunt's appointment, says Sains-bury, recognises the increased significance of the department's role as the company continues

fir Harold Harvey has joined the board of JOHN FOSTER as main board director responsi-ble for production. Mr Harvey, previously an associate director of the Drummond Group, start-ed his career in textiles on the shop floor and worked his way up through to senior manage

THE BANK OF SCOTLAND has the board of ARUNDELL US electronic publishing appointed Br A M Bankin and the board of ARUNDELL US electronic publishing bank Mr Rankin is group chief executive of Scottish and Newcastle Breweries and a member of the CBI Scottish Counsel. Mr Christopher McCann has been appointed a director of started his career as a newsparious is the result of the county of the CBI Scottish Counsel. Mr Christopher McCann has been appointed a director of started his career as a newsparious is the result of the county of per compositor, is the result of SII's decision this year to establish a European company for its

drive into the European publishing market. Anna Harvey will join HAR-RODS in December as its cre-ative director. Miss Harvey will be responsible for the presentation of the company's image and will act as social adviser on its

events and special occasions.

Two additional non-executive directors have been appointed by ABBEY LIFE GROUP. They are Mr Eobia Baillie, a non-executive director of Standard Chartered, London and Strathelyde Trust and Boustead and chairment of Purson Margaller. chairman of Burson-Marsteller Financial; and Professor C John Constable, a non-executive di-rector of International Military Services and various companies within the Smiths Industries Group. From 1971 to 1985 he was at the Cranfield School of Man-

agement, latterly as director.

MINET GROUP SERVICES has appointed Jacqueline Jones its director of insurance market se-

MICHAEL PETERS The MICHAEL PETERS GROUP has appointed Mr Glenn Tussel and Mr Peter Sampson directors.

Mr Barry Curnow has been ap-pointed chairman of MSL GROUP INTERNATIONAL, He was chairman and chief executive of Hay Asia.

Mr Peter Brackenridge has been appointed an alternate director of BORTHWICKS.

Mr Christopher Emptage has be-come operations director at FARNELL ELECTRONIC COM-PONENTS. Mr Allan Daniel has been appointed a director.

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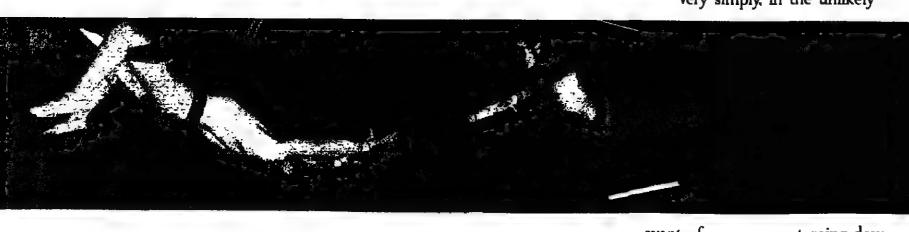
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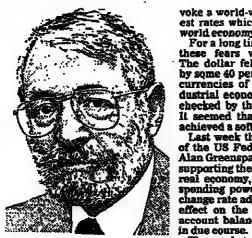


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ANTHONY HARRIS

THE WORLD'S financial markets, led by Wall Street, have at last begun to take seriously a warning which has been on the files for nearly two years.

In December 1985, Dr Stephen Marris, who served as a senior economist at the Organisation for Economic Co-operation and Development in Paris for some 30 years, returned to private life and published a grim analysis of the dangers presented by the US trade and budget deficits. Unless there was a co-operative effort to get back to balance, he wrote, a colwas a co-operative effort to get back to balance, he wrote, a col-lapse of the dollar would pro-

voke a world-wide rise in interest rates which might push the world economy into a recession. For a long time it seemed that these fears were unjustified. The dollar fell quite smoothly by some 40 per cent against the appropriate of the structure in the second seemed to be seen against the structure of the stru

currencies of the strongest in-dustrial economies until it was ehecked by the Louvre accord. li seemed that the dollar had achieved a soft landing after all Last week the new Chairman of the US Federal Reserve, Dr Alan Greenspan, made a speech supporting the cheery view. The real economy, he said, was respending powerfully to the exchange rate adjustment, and the effect on the nominal current

ccount balance would appear

A cure still demands co-oper-

The odds against a soft landing

Meanwhile, private investors have been increasingly reluctant to buy US assets on a suffi-cient scale to finance the defi-cit, or have borrowed dollars to hedge their exchange rate risk. It has therefore been left to the central banks to supply the hard currencies which the US needs, thus feeding liquidity to the world markets.

Is the world on the brink of a recession caused by lack of co-operation?

It is their efforts to check this It is their efforts to check this financial inflation which is now driving up interest rates, as Dr Marris had forecast. This could cause a Wall Street bear mar-ket, and so make it harder than ever to attract private invest-ment flows. Result: still more intervention and still higher inintervention, and still higher in-terest rates to "sterilise" the money used to prop up the dol-

ation, according to Dr Marris. If the US is left to deflate demand (Yoshitomi, with strong German single-handed, it might start a downward spiral everywhere. Domestic demand in other countries must therefore be rejected to the property of the fact that good news may the fact that g raised at least as fast as it is cut in the US - exactly the same message which the US Treasury

Secretary, Mr James Baker, has been urging for many months. They have not responded, and their counter-argument was strongly stated at the annual meeting of the US National Association of Business Economics this meeting the second mists this month. Their spokes-man was the man who succeeded to Dr Marris's job at the OECD - Mr Masaru Yoshito-

mi, who now runs the Japanese economic planning agency.

The basic problem, he explained, is that the US does not generate nearly enough savings to finance its own investment needs. Until the US government cuts its own demand for Americuts its own demand for American savings, any attempt to stimulate other economies would simply drive up the cost of capital. In Yoshitomi's view, only a fiscal squeeze in the US will prevent a world recussion.

So is the world on the brink of a recession caused by lack of co-operation (Marris and Bak-

dence to support a cheerful view. The volume of US exports rose at a quite remarkable 14 per cent annual rate in the first half of this year, and if it has now paused for breath, that is not very surprising.

Meanwhile, US consumer demand, supported for so long by seemingly reckless borrowing is at last levelling out, which will in due course reduce the demand for imports. The celebrated Federal deficit is sharply by the Gramm-Rudman fir just enacted. Only the rise in industral investment may enlarge the trade deficit but that is nealthy in the long run, and in any case much of it is financed by foreign companies.

This is a strong reminder of recent British history in 1976 imports of equipment for the North Sea produced dreadful current account figures, but in fact heralded a strong recovery. However, 1976 was a year of

dence is quite a lot of evidences, who advise most of dence to support a cheerful the major US companies, were view. The volume of US exports rose at a quite remarkable of reporting on a year when growth had exceeded their ex-

The American figures are also distorted by the well-known J-curve effect; and US manufac-turing export recovery has also been concealed by higher oil

with all these problems, the US has not done badly to stabilise its trade deficit.

So far, all the same, events have followed Dr Marris's scenario uncannily closely, and he argues that further devaluation will still be needed to make room for a sufficient adjustment. There seem to be only two serious reasons to question his projected unhappy ending.

The first is based on the idea of the US as a rich developing economy. Savings are low be-cause the population is rela-tively young, while investment demand is high both because the labour force is still growing. and because industry has much outdated plant. The funds will be willingly provided by older, less dynamic economies.

This may seem far-fetched. but the supporting evidence has persuaded Dr Marris's own Institute to concede that a US deficit of \$50bn (£30bn) - one third of the present size - might be problem-free. Others put the

Finally, there is the possibility that the US may soon enjoy the kind of step-change in industrial performance which seems to have occurred in Britain. This kind of change can fool the best-specified economic model, which is bound to project past patterns of behaviour. Unfortunately, financial markets are all too likely to make the same mistake.

INTERVIEW

FOR NEARLY 30 years, since the very first days of the Euro-pean Economic Community, one man in Brussels has guided and guarded the role of its central

When Emile Noel took up his job as executive secretary of the Commission in March, 1958, the number of his identity card was 33. The previous 32 were the Commissioners and their per-sonal staff.

His retirement last month as secretary-general of the Com-mission marks the end of an era, although not the end of a re-

although not the end of a re-markable arrest.

Since the first nine-member Commission, headed by Mr Wal-ter Hallstein, started to create the European Economic Com-munity outlined in the Treaty of Rome, Mr Noel has been pres-ent at almost every occasion of significance, from key Commis-sion meetings, to agonising ne-gotiations with national ambas-sadors and stormy summits of heads of government.

sadors and stormy summits of heads of government. For the past 20 years, his encyclopaedic knowledge of Community history, and extraordinary memory for the detail of past negotiations, has proved invaluable in the endless pursuit of compromise and accommodation needed to bring first of them miss then 12 member six. then nise, then 12 member states along the gradual road to the creation of common poli-cies, and ultimately a common

More than any other individual, this French civil servant, the archetypal eminence grise, has set his stamp on the European bureaucraty, which he staunch-ly defends against critics who claim it is cumbersome and over-centralised

over-centralised.

He has always been extraordinarily discreet about his own views, although no one doubts his commitment to the reinforcement of EC institutions, and his ability to formulate key compromises has certainly had a major impact on decision-

making.
Yet already in partial retirement - he has taken over as president of the European Institute in Florence, a university thinktank devoted to European issues - he is prepared to be more explicit about his hopes and fears for the future, even if still cautious about some of the more explosive occasions of the

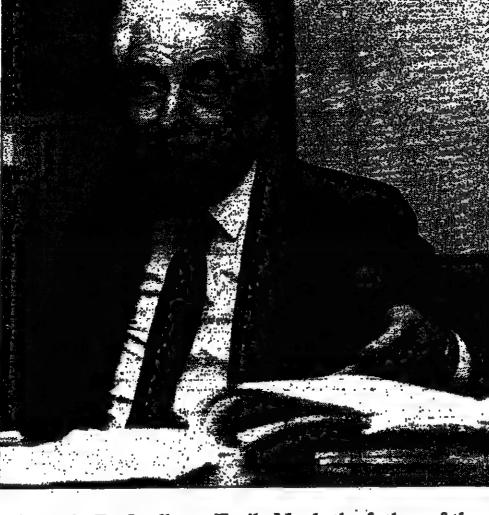
Mr Noel does not expect the Community to break out of its bad old habit of making prog-ress by staggering from one cri-

"It was always difficult," he says. "Only now the difficulties are rather different Previous crises - for example those re-sulting from the tension be-tween France and Germany -were always more political than economic. Now we have crises which are economic as well as

political.
The greatest number of diffi-culties today stem from the be-

ginning of the conflict between North and South."

The great standstill in EC de-velopment from 1979 to 1984, caused by Mrs Margaret Thatchcaused by mrs margaret that the er's battle for a better British budget rebate, "cost the Community very dear in political terms," he admits. It seriously weakened the BC institutions, in favour of inter-governmental



Quentin Peel talks to Emile Noel, the father of the **European Commission**

Civil servant

deals, and undermined the con-cept of Community solidarity." The deal done at the Fontainebleau summit in 1994 to give Britain a long term budget re-bate has also proved far more expensive in hard cash terms to the other member states than they expected. "It was a French compromise. If they got their sums wrong, we are not going to blame the British," he says. blame the British," he says.

However the one question never seriously raised in those hitter negotiations was the threat of British withdrawal

"Since enlargement, there are a number of countries - Spain, Greece and Portugal - for which it is less evident that their interest is indissolubly linked to the Community. Their economies are relatively weak, and the es-tablishment of the single (com-mon) market, if there are no

(compensating) measures taken, could have very serious conse-quences for their economies. Por example, in Spain, there has been an explosion of imports from other member states, unmatched by any comparable increase in exports. The problem about how the Community deals with these fragile economies is one which did not exist

until now."

The need to deal with the issue of the North-South divide in a 12-nation Community is at the hitter negotiations was the threat of British withdrawal from the Community. "Mrs Thatcher wanted to reform the situation from within."

That is not necessarily the same for some of the newer member states, Mr Noel believes.

Since an externant there are with a much greater effort to

the Common Agricultural Poli-cy, which consumes more than two thirds of the available cash

Mr Noel accepts that GAP re-form is necessary - in order to save the policy. "We must save the CAP. Reforming it is the on-ly way to do so," he says. The cost in itself is not the problem. It is the only EC policy actively financed by the Comproblem. It is the only EC policy entirely financed by the Community budget, and therefore takes up a disproportionate share of resources. Problems arose when the combination of high prices and extraordinary growth in farm productivity in the 1970s meant that CAP spending became counterpro-

Mr Noel accepts that CAP re-

with a much greater effort to help those countries in difficulties. Budget discipline does not mean that you do not spend, but that you only spend exactly what you want to."

The British view of EC budget reform is that it must be centred overwhelmingly on reform of the supposed on the slope from the slop

the pre-Fontainebleau plateau. The key elements are the fixing of 1992 as the deadline for the completion of the real Common Market, and the passing of the Single European Act to reform the Treaty of Rome, streamline decision-making and give greater influence to the European Parliament.

He admits that the effort to

He admits that the effort to

Istein's German background rather than his own Franch experience - and not very good be-tween different divisions hori-

zontally. His greatest regret is the failhigh prices and extraordinary growth in farm productivity in the 1970s meant that CAP spending became counter-productive, resulting in ever greater unsaleable surpluses.

Mr Noel believes that farmers and the EC farm ministers have accepted the inevitability of reform, and want to decide its direction, rather than have a so-

A realistic basis for fear

He admits that the effort to give more powers to the directivelected parliament is very controversial. It is up to the parliament to show the system can work. Co-operation (between the parliament and the Council of Ministers) must be shown to be both possible and profitable. The Council must listen to the parliament. But parliament must not misbehave.

The danger is that the Single Act - which gives parliament a chance to amend legislation, while leaving the final decision, while leaving the final decision, with the Council - may prove

He admits that the effort to give more powers to the directively alarmist last week hurricane last Friday morning that swept on shore the 34 Tamilis detained on board the former Sealink ferry Earl William berthed at Harwich.

Even if the Home Secretary were sensibly to bow to the judicial decision which is eminently correct and sensible, it would not follow that the six Tamils thereby became refugees entitled to asylum in Britain. The Government's obligations under the first to conclude in the case that an individual

Conneil of Ministers) must be shown to be both possible and profitable. The Council must listen to the parliament. But listen to the parliament must not misbehave."

The danger is that the Single Act - which gives parliament a chance to amend legislation, while leaving the final decision with the Council - may prove more rather than less cumbersome. Mr Noel still believes that a second plasse of reform should be possible. It could allow the parliament's proposed amendments to become the final decision by default, if the Council cannot decide against them by a simple majurity. It is perhaps complicated, but it provides a better balance between the Council and parliament, he says.

Looking back at the Commissions he has known over the says.

Looking back at the Commission of the early years. Professions he has known over the says.

There was a remarkable quality of the people involved, as we were also involved in a key moment in history. We have never again had that feeling that everything was possible.

The Gouncel of the provides a council of the convention of the convention of the council connected against them by a says.

There was a remarkable quality of the people involved, as we were also involved in a key moment in history. We have never again had that feeling that everything was possible.

The first Humbour of the provides a person who "owing to a well himself of the protection of the county of his nationality.

The six Tamilis were claiming that the first may be a first and adopted the wrong legal test. The Home

again had that feeling that everything was possible."

Mr Noel insists that the national administration for which he has the greatest respect is the British, with the Franch wall back in second place.

"The British system of co-ordination is remarkable; the French system is not bad, but not anything like it. The German system is very weak in comparison."

He likes the image of the Brit.

mot anything like it. The German system is very weak in comparison."

He likes the image of the British Civil Service as a Rolls-Royce which only operates in second gear when it comes to European issues. "Let us hope that one day they get into third or even fourth gear."

He believes that in spite of the attempts of national governments to influence decisions in the Commission — most often through the private "cabinets" of individual Commissioners - the bureaucracy is now sufficiently self-confident and European to resist. He admits that the lines of communication within the Commission are overwhelmingly vertical - a reflection of Hallstein's German background, and support than his own Franch expense.



tol." The analogy is imperfect.
The fear of the bank eashier can
only be momentary. The moment he discovers the true facts, the rationality of his fear disappears. So too with the ref-ugee from a country engulfed in civil war. The cassation of hostilities would remove the previ-ous fear of death at the hands of

ous fear of ceath at the hands of the invading army.

The problems facing officials at the Home Office are purely numerical. In recent years there have been 4,000 to 5,000 applications a year from people claiming refugee status, and

each case has separately to be processed by administrators and decided on by Home Office ministers. The main task is to weed out the bogus from the genuine claims. Many claimants are simply fleeing from poverty and economic deprivation.

The Convention, however, provides for refugee status only for those who are fleeing persecution and tyranny on one of a

cution and tyranny on one of a number of grounds. Apart from reasons of race, religion, na-tionality and political opinion, persecution may also be by rea-son of "membership of a particson or "membership or a particular social group." This phrase was intended to embrace those who are persecuted because of their social origins.

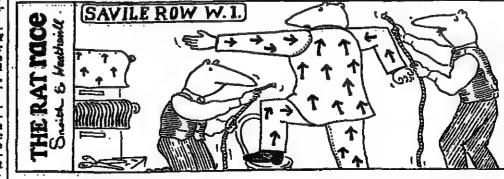
The language used however goes wider than this. Claims to account have for examine been

goes wider than this. Claims to asylum have, for example, been made by individuals asserting that as homosexuals they were members of a social group persecuted in their countries of origin. They would seem to be included within the definition of cluded within the definition of refugees. Other categories might include conscientions ob-jectors to military service. Con-scientious objection might con-stitute a political opinion but if it is simply a question of draft evasion it would not amount to persecution on that ground un-less the penalties for evasion were disproportionate. In one case it was held that the South case it was neid that the south African Army is crucial to the maintenance of apartheid, that refusal to serve in that army be-cause of conscientious objection to apartheid is punishable under South African law and that fear of such punishment constituted well founded fear of

persecution.

Do women, children or old people qualify as members of a "particular social group?" Is for example a woman from Iran who commits adultery and thereby renders herself liable to criminal prosecution within the "membership of a social group?" Governments will do better to seek clarification from the courts on such questions the courts on such questions rather than to engage in outraged posture at seemingly un-welcome legal decisions. It'ls unthinkable that the Briish Government will abrogate such a longstanding treaty obligation as the Convention relating to the status of refugees. It is wiser to learn to live with a sound le-gal ruling.

persecution.



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A FINANCIAL TIMES REPORT

Tomorrow, investors will have the chance to participate in the £7.2bn offer of shares in British Petroleum. In this special three page report FT writers look back at BP's history, its current strengths and prospects, and at the background to the biggest share sale ever.



Nationalised by Winston Churchill, then privatised by James Callaghan, British Petroleum is finally to be liberated from its last ties with the state by Mrs Thatcher, in the largest share sale in history.

It has been a remarkably good investment for the British taxpayer over the last 73 years. The Government's 31.5 per cent holding in the company is being offered.

holding in the company is being offered for sale this month at £5.7bn, which is more than 6,000 times the value of the shares when Churchill bought them in

1914.

Even allowing for inflation, that represents a real increase of 17,700 per cent on the value of the original holding. This reflects BP's rise to become the world's third largest oil company, well able look its bigger sisters, Shell and Exxon, in the face in most comparisons of performance. Since Churchill bought a 67 percent stake in what was then the Angio-Persian oil company, to secure fuel supplies for the Royal Navy, BP has undergone several revolutions. The huge Middle East discoveries, which brought its success at the beginning of the century have been national-

eries, which brought its success at the beginning of the century have been nationalised.

But by a spectacular combination of skill and good luck, BP discovered the free world's two most important accumulations oil outside the Gulf, in Alaska in 1969 and in the North Sea a year later.

But BP's good luck did not stop there. Just as it was discovering these huge deposits in inhospitable parts of the world,

the international price of crude started on a rise which was to increase its value 1,000 per cent by the end of the decade.

Oilfields under the grey rollers of the North Sea and in the distant Arctic, which had seemed barely commercial because of the enormous costs of extraction suddenly became money spinners. The discovery of Arctic oil at Prudhoe Bay enabled BP to get a firm foothold in the US. In exchange for Prudhoe, BP gained control of Standard Oil of Ohio, then mainly a selfuning and marketing comment. This was refining and marketing company. This was consolidated earlier this year with the purchase for \$7.6bn of the 45 per cent of the shares in Standard which it did not aiready own.

already own.

The discovery of the big Alaskan and North Sea reserves was also the key to freedom from control by the British Government. The rise in the company's value proved too tempting for the Labour Government in 1977, after a serious financial crisis. Although the BP shareholding was regarded by the Bank of England as the "Crown Jewel" of Government assets, a block of shares was sold which brought the government stake down from about 50 per cent to 30 per cent. per cent to 30 per cent.
But BP's sudden access of riches also

enabled the group to make some costly mistakes, some of which are still being un-scrambled. In the UK, BP lay back on the cushions of its crude oil revenues, badly neglecting the efficiency of its other busi-nesses, particulary refining. It was too

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er products, and even slower to take remedial action.

As David Simon one of BP's managing directors, explains in an interview in this report a major re-organisation into profit centres and harsh cut-backs were required after Sir Peter Walters took over the chairmanship in 1981.

Just as the earlier good fortune of the early 1970s helped to create problems for the group, so Sir Peter's difficulties a decade later helped to preserve BP from some of the errors of its competitors. While other oil companies were out on a buying spree, spending huge amounts of their oil revenues on acquisitions which now look expensive, BP was absorbed by its internal traumas. It was closing 40 per cent of its refining capacity at a time when Britain had fallen into its worst recession since the 1930s.

since the 1930s.
Sir Peter, and BP's planners must also be given credit for realising that oll prices be given credit for realising that oil prices might topple from the precarious levels to which the Arab producers had pushed them in 1979. Financial consolidation therefore had a precautionary element as well as compensating for past errors. However, BP's success in Europe was by no means matched by the performance of its US subsidiary, Standard. Under its US management, Standard had been absorbed in the gigantic task of developing the 11bn barrel Prudhoe field far beyond the

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reach of civilisation, and the associated pipeline across Alaska. As operator for half this 700 square mile field it succeeded in building the equivalent of a small city on the permafrost, overcoming enormous logistical and technical diffi-

But Standard became so absorbed in this technical feat that it failed to devote enough management talent to the equally important task of re-investing the cash which started to pour out of the Arctic.

After some \$\frac{2}{2}\text{m}\$ had been squandered on doubtful adventures, BP finally lost patience. In the early part of last year, as oil prices were tumbling, it exercised its right as the major shareholder to sack the top management. Mr Bob Horton, BP's jovial tough guy, who had been in charge of the UK retinery closures was sent to sort out the mess.

out the mess.

The full purchase of Standard followed in the early summer of this year, after Mr Horton and his financial lieutenant John Browne had shown that the company was remediable, and King Fahd of Saudi Ara-

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bia had made it clear that he would not tolerate an oil price much below \$18

The complete digestion of Standard will doubtless take some time. However, after a momentous year, BP now finds itself a truly integrated international group with half its assets in the US, two of the largest oil fields in the world outside the Gulf, and an efficient marketing and refining operation, particularly in the US.

However, the task of re-construction is by no means over. The enlarged BP remains, as unkind commentators have said, a "two pipeline company". In spite of its

mains, as unkind commentators have said, a "two pipeline company". In spite of its successful exploration efforts over the years in Abu Dhabi, Canada, New Zealand, Egypt, Germany, France, the Netherlands and Gabon, more than 90 per cent of its oil production still comes from Europe and North America. And the great majority of this is pumped through two pipelines, the trans Alaskan line and line to the Forties field in the North Sea.

BP therefore needs to find or buy more oil or new business activities to replace these waning revenues - unless it is recon-

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ciled to becoming steadily smaller. It also needs to widen the spread of its activities beyond Europe and the US, if it is to stay in the same race as Shell and Exxon.

The £1.5bn rights issue attached to the Government's share sale, and the strong positive cash flow from its oil fields should enable it to expand by acquisition if opportunities should arise. However, many other companies are also out on the hunt, and bargains have not been easy to find. A more radical effort to diversify seems

a more radical entors to deversity seems unlikely. Sir Peter said recently: "There are few if any businesses that we are not in today that will attract us", and he has frequently stressed the need for BP to stick to businesses where it can hope for a significant market share and a comparative advantage over competitors.

significant market source and a compara-tive advantage over competitors.

So in the long term, BP must be hoping for another of those major discoveries that all oil men dream of, for continued steady expansion of present businesses, and and for new technologies and new uses for its coal and gas reserves.

William Hall charts the ups and

downs in BP's history

A colourful world player

BP HAS ENJOYED one of the Mr William Knox D'Arcy, who most colourful histories of any had made his fortune in the major multinational company and, unlike some of its rivals, is 1890s. Having retired to Lonstill around to tell its tale. It did not always look like this would

be the case.
It was a relatively late arrival in an era when the oil business, and the interests of national governments. Were even more conspicuously intertwined than they are today. By the end of the 19th century, John D. Rockefell-er's Standard Oil empire, which included the forerunners of Exxon, Mobil and Chevron, had grown to monopolise the US oil industry and was threatening the very survival of its two major international rivals - Royal Dutch, which operated under royal charter in the Dutch East Indies, and Shell Transport & Trading which was founded by Marcus Samuel, a London en-

repreneur. Standard Oil, anxious to du-

A prices war in 1907 brought mergar with Royal Dutch

in the international oil markets, had tried to buy both companies and when this falled tried to put them out of business by aggressive price cutting. Although Shell was the bigger of the two companies, it was less able to withstand the competition, and in 1907 it agreed on a defensive combination with Royal Dutch giving the Dutch a 60 per cent interest in Royal Dutch Shell. The deal was regarded as a

humiliating defeat for Marcus Samuel, a Lord Mayor of London, and was viewed with considerable suspicion by the British Government Winston Churchill, as First Lord of the Admiralty, was particularly concerned that the Royal Navy should be able to rely on a safe and cheap supply of fuel oil at a time of mounting military ten-sion in Europe. He did not want this to be left in the hands of what he regarded as a foreign

It is against this background that the forerunner of BP - the Anglo-Persian Oil Company came into being. The company owes its existence to the persistence of a colourful adventurer. 1890s. Having retired to London, he was intrigued by reports that Persia contained giant oll fields, which might rival in size the recent buge Spindletop oil

iscovery in Texas. The Russians were also showing great interest in the area but D'Arcy managed to win the concession after one of his lieutenants made the Grand Vi-zier an offer he could not refuse on a day when the Russian Ori-ental Secretary - the only man who could read Permin in the embassy - was out of Tehran on a hunting trip. D'Arcy's concession, granted in 1901, gave him the sole right

for 60 years to explore for oil over 480,000 square miles of Persia - an area nearly twice as big as Texas. He recruited George Bernard Reynolds, one of the great Middle Eastern oilpioneers, to head the explora-tion effort and for the next three years poured most of his fortune into the venture.

fortune into the venture.

He kept up an extravagant life style in England, to the extent that his wife thought nothing of hiring Caruso and Melba to sing for her dinner guests on the same night. By 1905 he was desperately seeking outside fiperately seeking outside fi-nance to continue the search for Persian oil.

Burmah Oil, which had been founded 19 years earlier by a Scottish merchant and had grown rich on its Far Eastern oil interests, agreed to put up the working capital to continue the search and, just as it was losing faith in the venture, the group stumbled on the first major oil field in the Middle East at Masjid i Suleiman(MiS) in 1908, which came to be known as Fields.

The following year, the Anglo-Persian Oil Company(APOC) was formed. (Burmah retained a substantial stake in the group until the mid-1970s when it ran into financial problems of its own and forfeited its BP shares as part of the Bank of England

APOC quickly began work on a pipeline to what would soon become the world's biggest oil refinery at Abadan, at the top of the Guif However, the venture proved far more costly and difficult than first imagined and money problems resurfaced. After the war it continued to point in the affairs of the com-Meanwhile, Europe was sliding expand its Middle Eastern oll pany and its relations with the

REDORCATION ON a cubic application form 0.000 A PLETHORA OF application for the BP share offer: red ones for existing shareholders, blue ones for people who registered with the share information office, green ones for employees, and yellow ones to be found at the back of the structure in the share in the share of the structure in the share of the sha

yellow ones to be found at the back of the prospectus.

As in other privatisation is-As in order privatisation if-tues, there is a strict rule that only one application can be made or principle ap-plicants run a strong risk of end-ing up beld a bars. But confuus over two exceptions to this rule.

The first exception applies to red form applications. These have been created to enable existing BP shareholders to claim their special entitlement to the £1.5bn "rights" issue of BP shares

into war and Churchill was be-

coming increasingly anxious about the Royal Navy's fuel sup-

In 1914 both sides solved their

problems when the British Gov-

ernment signed a long-term supply contract with APOC and

bought a two thirds stake in the

company for £2m. To ensure the

safety of its new investment, the British Government also took

the precaution of invading Bas-

rah in the Turkish province of Mesopotamia, now Iraq, which lay across the river from Aba-

dan. It was feared that once

Turkey entered the War. Aba-

dan would be a prime target

and the Royal Navy would be

The Government's cash injec-tion satisfied the company's im-

mediate financial needs and as-

sured it of an outlet - albeit not a very profitable one - for its

rapidly growing oil production. By 1917 it had begun to acquire

its own domestic outlets, by pur-chasing the British Petroleum

Company, the UK arm of the Eu-

ropaische Petroleum Union, and by 1921 it had built its first

UK refinery at Llandarcy in In 1951

immobilised.

south Water.

which is included in the 67.30m

You are not

Yes

effering.
Eligible BP shareholders who include digible members of the BP Group Participating Share Scheme - can use these forms to claim all or part of their entitlement of one new BP share for every 12 already held.

But it is important to note that red form applications do not count as far as multiple applica-tions are concerned. You can make whatever red form applica some people may be entitled to (and some people may be entitled to more than one) plus one applica-tion only on any other form.

The second exception applies to personal equity plans where your PEP manager makes an application for BP shares to include in your portfolio.

interests and in 1927 the Turk-

ish Petroleum Company, in which APOC had a substantial

stake, made the first oil discov-

ery in Iraq. By the mid-1930s APOC had changed its name to

the Anglo-Iranian Oil Company and joined forces with Gulf Oil

to explore in Kuwait. In the UK

it had merged its marketing subsidiaries with Shell forming

Shell-Mex and BP which came

Sole rights were

won for stxty

years in Persia

to control over 40 per cent of the UK market before being dis-

However, despite all this ex-

pansion the group was still de-pendent on Iran for two thirds

of its oil production and refin-

ing capacity and had an Iranian

workforce of 75.000 - more than

two and a half times as big as

the current UK workforce -when Iran did the unthinkable

and nationalised its oil industry

solved in 1976.

mere me rainag is that it you are aware that an application is being made for your benefit, you cannot make a separate application yourself (unless, of course, it is a discretionary portfolio and you are those whether your PEP annual to be a separate to be a separate and the separate in the separate application is being made for your separate application your separate your separate application your separate application your separate application your separate your separa BP shares in it or not, you are free to make an application of

Here the raling is that if you

The blue application forms are being sent to people who were registered with the BP share information office by October 3 (and this includes BP shareholders, who were registered automatically). These forms, which (like the red ones) are personalised, will guarantee them at least

other applicants should use either the yellow form to be found at the back of the prespectus or a form cut out of a newspaper (such as tomorrow's Financial Times). Eligible employees of BP, however, should use the green form they have been sent because this will give them highly preferential treatment in the allocation. The decision tree above is in-The decision tree above is intended to help people through the applications maze. It is not, however, exhaustive: it does not, for example, cover the case of BP employees or people subscribing to PEP schemes. Those still in doubt should seek guidance from professional advisers. Richard Tunkins

was put in the unhappy position of having to decide whether to step in and protect a company over which it had little influence and the company was forced to face up to the fact that if it was going to survive as a major international oil company it could never again be so dependent on supply from a single country and nor could it count on the unfetterred support of its principal shareholder. The days when you sent a gunboat to pac-

British Government. The latter

By 1854, the CIA and Mi6 had helped install a more sympa-thetic Government in Tehran and the renamed British Petroclusive monopoly and was equally important discovery in working hard to develop new the North Sea just over the North Sea just leum was once again lifting Irasources of supply in places later.
ranging from Nigeria to Abu The

ify the local natives had long

cals and built one of the world's day. At the beginning of the biggest shipping fleets to supply 1970s most of BP's oil came from the world's steadily rising dethe Middle East. Today, it has mand for petroleum products. the third biggest reserves of any This was a period when oil was oil company and some 57 per cheap and the international oil cent of these are located in the companies were more powerful. Its and IIK. companies were more powerful US and UK. the governments

which they dealt. However, the balance of power was beginning to shift.

to shift.

The Organisation of Petroleum Exporting Countries(Opec) was formed in 1960 by Iran,
Iraq, Kuwait, Saudi Arabia and
Venezuela and, while its early influence was limited, by the beginning of the 1970s this had changed. The turning point was the Arab-Israeli war of 1973 which led to an Opec embargo on oil shipment and the first unilsteral rise in oil prices by

had begun to pay off handsomely. In March 1969 it discovered

The two events transformed Dhabi and Libya. BP's fortunes and form the ba-It expanded into petrochemists for the company as it is toPart payment

ALTHOUGH THE BP share of fering is not a true privatisation in the mould of the British Gas so-called time value of the unpaid instalments. Further, the premium which the shares attract will be much taking part. Why are so many people getting so excited about the offer? And is their enthusi-

sam justified? The offer is not technically a privatisation because BP is already in the private sector and its shares are already traded on the stock market. But it is a state sell-off in the sense that the Government is selling its last remaining 31.5 per cent stake in the company, an exer-cise which will gross about 25.7bn for the Exchequer at the

offer price. In addition, BP is taking the opportunity to raise approxi-mately £1.5bn through what is effectively a rights issue of new ordinary shares. The proceeds will help strengthen the compa-ny's balance sheet in the wake of its acquisition of the minority £4.7bn earlier this year.

Rather than have two sepa-rate share offerings going on at the same time, the Government has decided to simplify matters by buying the "rights" issue off BP and lumping it in with its own share sale to make one gi-

ant £7.5bn offering.
Overall, some 2.2bn shares are being sold in the BP share offer, but not all of them will go to the British public. As another article in this report explains, at least 825m of the shares will go into a separate international offer for institutional investors in the UK and overseas.

The 1.1m shares on offer to British investors - or 14m if this part of the offer is more than twice subscribed - will be part of the order is more than twice subscribed - will be priced at 330p a share - a dis-count of 17p to the opening price of BP's existing stock on October 15.

Potential investors might well ask where the attraction lies in such a small discount, since logthe oil producers.

The events underlined BP's ic suggests that the shares being sold will simply revert to the market price when dealings betions. Fortunately, its efforts to diversify its sources of supply 5 per cent a trifling profit comgin thus providing a premium of 5 per cent - a trifling profit com-pared with those notched up in other recent Government is-

The answer lies in the fact that only 120p of the share price has to be paid on application. The second instalment of 105p does not have to be paid until August 30 1988, and third instalment of 105p is not due until April 27 1989.

in theory, this gives added value to the shares because they are being offered on inter-est-free credit. The unpaid part of the price can therefore be put on interest-bearing deposit

adds to value

bigger as a percentage of the ac-tual initial outlay than it would have been as a percentage of the fully-paid price.

If these arguments are taken to their logical conclusion, the arithmetic works like this: In order to meet the cost of

paying the second instalment of 105p in August 1988, investors need only to find 97p now, because, if they put that sum into an account earning increst at current rates it will have grown into 105p by the time the sum Similarly, the amount that has

to be deposited now in order to

The offer has attracted more than 6m.inguirles

produce the third instlament of 105p in April 1989 is only 91½p

Now add together the 8p time value of the second instalment, the 13p time value of the third instalment and the 17p discount at which the shares are being issued, and you have the 38½p premium to which an efficient market will theroetically take the partly-paid shares when dealings begin. That represents a very attractive 32 per cent of thr 120p partly paid price.

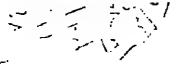
In practice, it is unlikely that the premium will be quite as great as that unless there is an upturn in the stock market between now and the day dealings

The short-term investor, how-ever, can still look forward to an attractive and worthwhile pre-mium as long as the stock mar-ket holds firm. And it is important to note that because this is such a big share ofering, alloca-tions will be much larger than in other recent privatisation is-

In the longer term, the time value premium attracted by the partiy-paid shares will gradually diminish as the second and third instalments become payable. But this does not mean that the longer-term investor loses out he or she will instead loses out: he or she will instead benefit from having acquired the shares (and the accompany-ing dividend stream) on inter-est-free credit. They will also get the usualloyalty bonus of one free share for every 10 still held in three years' time,

Richard Tomidas

F15/5/5/





In good shape to compete in ***world markets ...

David Simon, BP's managing di-rector for finance, has been closely involved in the major re-organisa-tion since 1981, and in shaping fu-ture policy. In this interview with Max Wilkinson he discusses the

Max Wilkinson he discusses the company's position as the world's third largest oil group, how it got there and its strategy for the furthere and its strategy for the furthere.

MW: For many potential investors in BP, the most important question is probably what will happen to the price of oil. You have clearly shown some confidence that the price will remain more stable. What is the reason for that, and how would RP fare if the price were to fall back to the levels of 1986?

SIMON: Up to to the end of the year, our profit forecast is dependent on oil staying in the

dependent on oil staying in the \$18.50 a barrel range with the sterling-dollar exchange rate at \$1.65. Because of the formalities of the offer, I can't say much on this subject. However industry forecasts suggest that over the next two years a price of \$18 to \$20 in present day values can be expected. Of course prices may move outside this range. One of our key management responsibilities is to cope with a volatile oil price. Last year Standard Oil, our US subsidiary, wrote off £280m of oil properties, and this clearly makes the company more robust at any price.

MW: BP has been through a period of radical change since Sir Peter Walters became chairman in 1981. What was the main effect of this re-structuring? DAVID SIMON: Our first task

was to divide our activities into ten separate businesses, of which the five most important which the five most important were: upstream and down-stream oil, chemicals, nutrition and minerals. The key objective emparative strengths compared with Shell and Exxon? petitive in its own sector. So, inout a cleer financial focus, we required managers of the different businesses to clarify their own markets and to become competitive and profitable.

able.

MW: SP was in fairly bad shape before that, particularly in the refinery business. How far have you got with these changes?

SIMON: In the downstream oil shape before that, particularly in the refinery justiness. How far have you got with these changes?

SIMON: In the downstream oil and gas business, we were at one stage bottom of the league of seven or eight major competition. We have since improved efficiency and now we are in good shape by the standards of the industry. We have done that by very stringent rationalisation, taking out surplus capacity and surplus manpower and trying to be cost competitive in evilage to be cost competitive in evilage to be cost competitive in evilage to maximise out value of our debt to debt ing to be cost competitive in evilage to maximising the value of our left for some time?

HW: Does the fact that you have just spent \$7.4hm buying Standard Oil in the US moon that where large acquisitions will have be put off or some time?

SIMON: No. One of the reasons we are making an equity offering of £1.5hm is that we want to regain, the balance have and long term. We will do that we achieved by our stratogy in the first five years of this decade. We have wanted to keep by maximising the value of our debt to debt plus equity ratio at about 30 per

140 -

130 -

120 -

100 -

80 ---

70-

1.1

MW: What about the contin-uing over-capacity and low mar-gins in the refining industry? SUMON: I would like to make a difference between marketing margins and refineries. Marketing margins have on the whole been very steady through 1984, 1985 and 1986 and I think 1987 is again showing a very reasonable marketing return. Refining margins have been under tremendous pressure as they were in 1985, because there is still probably 50m to 100m tonnes of surplus capacity in Europe. We closed over 40 per cent of our capacity between 1961 and 1985, which is by far the highest amount of any of the major companies relative to their business. We would like to see some more closed but we can't take decisions for our competitors. more closed but we can't tak decisions for our competitors.

SIMON: We are half the size of

stead of having an integrated those two in financial terms, but chain of businesses which very our oll and gas reserves are the much leat on one another with third largest among the major our oil and gas reserves are the third largest among the major companies, and they are heavily concentrated in the politically stable Europe and the US. We have a very flexible world-wide trading system, which stands up well against those of our major competitors. We have a flexibility which perhaps is more possible if you're a lot smaller.

Share Price relative to FT-A All share index

MW: As your major sources of, all in the North Sea and Alaska run out what is going to replace these. Will you be attempting to replace that oil by acquisition or by exploration?

SIMON: We've been producing about 14m barrels per day of oil over the last five years, and we have replaced most of that. We have new fleids coming on strike. on stream. We have Endicott in Alaska, and Wytch Farm in Dorset is being extended. We have in the pipeline Miller in the North Sea. We expect to be able to maintain our current producto maintain our current produc-tion of oil and gas over the next five years. The recent upgrad-ing of the Forties reservoir in the North Sea demonstrates the ntial for increasing recovery from existing fields.

MW: But looking further shead price due.

the industry's view seems to be that major oil reserves will be that major oil reserves will be come progressively harder to due.

BP share price 200 ---150 100 -

1977 78 79 80 81 82 83 84 85 86 87

find? What is BP's langur turns strategy for that period? SIMON: Beyond the ten year

horizon, we are looking at new ways of getting existing hydro-carbon deposits to the market. For instance there are big gas reserves which have not yet been brought to the market.

About 25 per cent of our reserve base is gas but only seven per cent of our production. Another question is how and whether

gas is going to be converted to liquid fuels in the 10 year to 20

year timescale. We already have a process for potentially turning methane into liquid feel which raises many exciting possibilities for us.

MW: So what kind of company do you expect BP to be in 15 years' time?

SIMON it will still be predom-

inantly a hydrocarbons company, but I would see three changes: first, a more extensive international asset base. We are

the international equity mar-kets, and potentially more cus-

tomers. Thirdly, I think we will probably see stronger marketing businesses for oil products, chemicals and nutrition products.

MW: Might BP have absorbed one or two smaller independent oil companies by that time?

SIMON: Acquisition will be one of the ways by which we expand our downstream businesses. Upstream? Well we have already done it by buying Standard Oil, but I think if opportunities for acquiring reserves arise, we will certainly take them if it looks more economic than exploring off our own but - which to date has been relatively meccessful.

BP share

purchase

Tuesday October 26: Prospectus appears in national

Offer closes at 10am.
Friday October 38:
Pricing of international offer revealed; allocation announced; dealings begin at

Letters of allotment posted to

First dividend payment (the fi-nal for year to December 1987)

Second instalment of share

Thursday December 31: Last date for trading in

press. Wednesday October 28:

Monday Nov

May 1988:

August 1998:

small investors.

nounceable form.



Devid Simon; stringent

dends in the short term as well as capital growth. One of the ad-vantages of being relatively smaller is that it gives room for expansion by organic growth and by improving the portfolio of accepts.

of assets.
One of our weaknesses is that we don't have enough of our assets in the Far East, where incomes are growing fast. And we are quite prepared to grow by acquisition.

and supplied manipower and dying to be cost competitive in every market. And we turned ourselves into a market trading that they must achieve diviselves into a market trading that they must achieve divius flexibility. So if the opportunities for acquisition do arise,
we can move relatively speedi-

All you wanted to know

some other recent privatisa-tions, but it is still very attrac-tive for an almost instantaneous

Q. Last time I applied for c. Last time I applied for shares in a privatisation issue, it was so heavily subscribed that I only received 100 shares. Is BP going to be worth the bothes?

A. In this respect, yes. The BP offer is much bigger than other recent privatisation issues, so there should be enough shares available to give a sensible allocation to everybody. cation to everybody.
Q. So how many should I apply

A. People applying for a few handred shares will probably get all or most of what they ask for. Beyond that, there will probably be a gradual failing off, with blue form applicants getting alightly more shares at every level than non-preferential applicants. The British Gas allocation might well prove a model for BP.

model for BP.

Q. I bought some BP shares last month to be sure of preferential treatment in the alletment. Now the people at the share in-fernation office have gone and sent me a red form to apply as a BP shareholder and a blue form to apply as member of the public. Aren't they inciting me to crime?

crime?

A. No. Red forms are in a estegory of their own. They confer a special privilege on existing RP shareholders to apply for a section of the offer that has been set aside for them. You can fill in the red form and still make a single application on any other form for shares in the rest of the offer.

Q. Est what on earth is the

predominantly a US and European company now. I think we will extend more into the Pacific and South America. Second, a much wider shareholder base should give us better access to Q. But what on earth is the point of that? Why don't I just apply for all the shares on the one form and throw the other A. Because the red form guar

antees you as many shares as you ask for up to a maximum of one for every 12 aiready held. Your best strategy is therefore to apply for as many shares as you can on your red form and then top up on the blue. Q. Can I make separate appli-cations for my wife and children and accompany them with cheques drawn on my own ac-

A. Yes: Children under 18 are not allowed to apply on their own, but if your family is unusu-ally large, you should not be surprised to receive an inquiry from the accountants who are policing the offer asking for evi-

Q. I'm only looking for short-term gains in this offer. When my family and I get our letters of allocation, can we bandle them into one and sell them for a single dealing commission?

A. Probably, it depends who you deal with. The National Westminster Bank, for example, says its on-the-spot dealing service will accept a bundle of up to five allotment letters bearing the same family name and adtimetable the same family name and ad-

> Q. How sees will I be able to self the shares?
>
> A. Dealings start on Friday October 30, two days after the offer closes, but allotment letters will not be posted until Monday November 3. It is unlikely that you will be able to deal without an allotment letter unless you are an established client of a stockbroker or other

> Q. Are there any risks involved in going for the BP effer?
> A. Yes. If the market were to turn sour between now and the start of dealings, or before your letter of allotment arrived, you could see the shares going to quite a narrow premium, or even conceivably a discount.

Brokers'views

A sound investment

when dealings begin?

A. No. However, if the market stays favourable, the Government's adviserabelieve that the partiy-paid shares could go to a premium of up to 32 per cent. That may not be as much as in They tolked to Lucy Kellaway.

Mike Unswerth of Smith New

Besed on the current price, the partly paid shares in theory should go to a premium of 30 per cent. But in fact it will all per cent. But in fact it will all depend on the market - and if the oil sector looks strong over the next two weeks, the premi-nm could be much larger. This should make it a good stagging issue. If the price stays at cur-rent levels, investors should be able to get a decent amount of stock, much more than the line stock, much more than the tiny allocations in many of the recent privatisation issues.

The new shares have intrinsic

onalities: they are marketable and highly geared, so they may become the preferred instrument in the oil sector. The high yield may well protect the shares against a sharp fall, making the gearing effect asymetrical.

Simes Wharmby of Sheppards
"Investors will get nothing
like the promised 30 per cent
return on this one. While they might make a modest gross turn, after costs - we are charging 250 a bargain for private clients - the return will be infinitessimal. The private investor is going to get a shock when he discovers that after all expenses to will have made about 55 he will have made about £5.

The main reason for buying the shares is the yield, which on the partly paid shares will fantastic - in double figures.

The demand from UK institu-

Timothy Morgan of WI Carr The issue has been structured to make it a terrific long term investment. If private investors want to invest in equities at all, they should go for the big names. They won't get a better chance than this to get into an

and on an instalment basis. BP is a better company than British Gas, and also misunderstood. People talk about BP being exposed to the oil price, but this is not really true. When the oil price collapsed last year the shares held up well.

My only concern is whether the oversees investors will like the overseas investors will like it. The US market could spoil

excellent company at a discount and on an instalment basis. BP

Paul Spedding of Kleinwort

the issue there, and in any case BP looks expensive compared to US oil companies like Mobil.

I expect the shares to do well I expect the shares to do well both in the short term (there should be a premium of about 43p) and in the long term, when investors will get their one for ten bonus. However, I do not think that as many private investors will go for this one as applied for British Gas. The campaign has been lower key, more brokers are cautions about it, and markets are not booming. I would hazard a gness that Rothschild will have trouble triggering the elawback. suble triggering the clawback.

Peter Nicol of Chase Manhat-

I expect this one to be very popular with the private inves-tor. The name is even better known than British Gas, and a premium of 25p to 30p a share should be easily achievable.

IS BP GOING to be a bonance? Or tions should be good, as they is it all hype with little return? are underweight in BP, and lots it is more risky. It is not nearly such a safe investment as Shell, and stask them away, or take a shares in the last few months in British Telecom or British Gas.

Peter Spring of Greenwell

Montagn The issue is taking place against a fairly strong ground in the oil market. The winter season should come to the aid of Opec, and we expect oil prices over the next twelve months to move up to \$20 a barrel. I think it could attract more than 5m investors - everyone has heard about BP, and the premium is likely to be more

Alan Solemon of Loing and Crnickshank

This offer is not an amazing bargain for investors, although it offers a good yield in the first year, and should start trading at a premium of about 20p. It comes with all the risks of investing in oil companies - it is not a safe bet like British Gas. Even so, it should be well re-ceived, attracting about 5m to 6m investors, as well as healthy demand from UK institutions, who will want to push up their weighting in the stock.

Brian McBeth of Schroders Se-

curities
I think the price may start heading south once dealings start. It looks as though a lot of the UK institutions will sell in the market quickly, as they already have a sizeable chunk of PR charge Versiers. ready have a sizeable chunk of BP shares. In any case they are feeling increasingly bearish about the market in general and oil shares in particular, which may suffer badly from oil price weakness during the first quarter of next year. But I still think it is attractive for the small investor with its high yield and bonus shares.

BP and Shell compared

Non-identical twins

BPS ALASKAN oil fields, its chicken feed business and its underwater paints have each in turn been inspected by potential shareholders over the last few months in conscientions preparation for the record share sale.

Yet, while the company itself has been exhaustively exam-

ined there has been almost no debate about the relative mer-its of BP and Shell, its investnent twin. For a small investor the over- 120

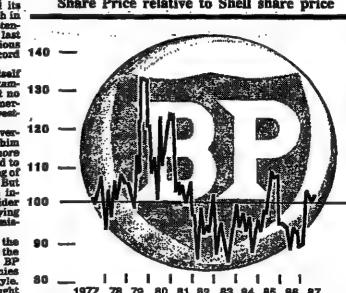
sight may be excusable. For him the merits of the issue lie more in the special perks attached to the shares than in the placing of BP relative to the oil sector. But for bigger and longer term in-for bigger and longer term in-vestors any failure to consider the oily alternatives to buying BP would seem a serious omis-

Although involved in Atthough involved in the same business and beset by the same concerns, Shell and BP are quite different companies each with its individual style. Shell has always been thought of as the "downstream" company, with its main strengths at the refineries and the petrol pumps. While it has never produced owits empany and all to dead of the petrol property of the strength of the same and the petrol property of the same and the petrol property of the same and the same and the same are same all to the same are same as the same are same as the same and the same are same as the same are same are same pumps. While it has never produced quite enough crude oil to fill its refineries, its "upstream" activities (which involve looking for oil and producing it) are well balanced, not overly dependant on any one field or country and with a large portion of the total production made up

by gas.

BP, on the other hand, has been far more successful upstream, whereas until recently its position in refining and mar-

Share Price relative to Shell share price



1977 78 79 80 81 82 83 84 85 86 87

heting oil has been weak. Un-like Shell, its oil production is heavily concentrated on two gl-ant fields: Prudhoe Bay in Alas-ka and Forties in the North Sea. The management style of the two companies also differs, with BP traditionally regarded as the less well run of the two. This was particularly evident during the 1970s, when the money was flooding in from its two huge oil

discoveries. BP neglected its downstream activites, allowing them to become heavy loss makers, while its attempts to reinvest its piles of each in oil and in mining proved equally un-

in mining proved equally unhappy.

However, more recently past damage has been repaired, and under the leadership of Sir Peter Walters refineries have been closed, and disastrous diversifications unscrambled. Even though the company is now perceived as being well managed and efficient, the popular view of Shell as star of the international majors has not yet international majors has not yet been overthrown, although it has certainly been challenged. The differences between the two companies have been cleartwo companies have been clear-ly reflected in their relative share prices. BP, with the larger proportion of its profits in oil production, has tended to out-perform Shell when the oil price is rising, and suffer when it is falling. During the 1970s, when the price of oil rose ten-fold, BP consistently traded on a lower yield than Shell, while in the shakier 1960s the position was reversed, and the yield advantage was transferred to BP. At the same time other influences have also been at play. While shunned on oil price grounds for the past few years, BP has earned market respect by pulling its affairs into shape,

and has increasingly been viewed as a recovery stock. Indeed, since the start of this year, all seems to have been go-ing BP's way, and in the last

month or two investors have de-manded a higher yield on Shell

shares for the first time since 1980. The oil price has once again moved in BP's direction, with the consensus that oil prices are more likely to rise than to fall over the next year or More important in the re-rat-

ing of the two companies has been differing paths that their growth is expected to take BP has completed the springcleaning stage of its strategic plan, and is now ready for some serious expansion. The market expects that this year's weighty \$4.5bn purchase of the minority

interest in Standard Oil will be just the beginning.
Indeed the speed with which BP is filling the hole in its balance sheet made by the acquisition underlines its willingness to make another mater. to make another major move Such expanison has boosted the BP share price, as the market evidently prefers the promise of big deals to a future of more gradual growth. By contrast, Shell is not ex-

pected to announce any revolu-tionary deals cabable of changing the shape of the company. This is through no want of funds; with a cash mountain of about £6bn, Shell could buy almost whatever it wanted in-stead it is expected to continue to make a whole series of pur-chases which will gradually

build and strengthen.
Undoubtedly the share sale itself has also been good for BP, as all the publicity has concentrated attention on the company's strengths, on its recovery, its gearing to the oil price and its potential for strong growth. But does BP really deserve to

be on a lower yield than Shell? Stockbroker, James Capel does not think so. It sees the choice as between Shell's established position and BP's ambitious plans, and concludes that BP should offer a slightly higher payout - perhaps by half a per cent or so - to compensate for the higher risk of its game plan. Lucy Kellaway

Institutional investors

Demand from bidders will set the price sets overseas, yet only 6 per tion among those institutions is cent of its shares are held also broadly determined; there also broadly determined; there is no UK-style free-for-all. As for demand, the Government of the balance of little the country.

FOR ALL THE advertising blitz aimed at the man and woman on the Clapham omnibus, lay mem-bers of the British public would bers of the British public wound
be wrong to assume that they
set the highest price possible on
set the highest price possible on
set the highest price possible on
spice offer, has led the Government to take a further step
discount of the same road with the BP
offer. ed in an attempt to secure a strong take-up by institutional nvestors, too. owning democracy, it needs to make its share offerings tempt-

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stitutions are being offered the ing by setting the price low. shares are radically different. Until recently the second shares are radically different from those swallable to the small investor.

Until recently the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the first so because in the second argument has tended to prevail over the second argument has the second a

sponse will have implications when the flotation of BAA for BP's share price (formerly the British Airports when dealings begin, but possibly for the structure of other the Government therefore tried

solve the conflict of interest which has existed in virtually every privatisation issue since the widening of share owner-ship became a Government ob-

On the one hand, the Govern-ment's obligation to secure the maximum value for money for the taxpayer means it ought to set the highest price possible on the charge of state arms of the large numbers of inexperienced investors to join the new share

small investor.

Indeed, they are radically different from the tarms on which any UK equity offering has been conducted before: and the response will have implications

giment may tended to previous different in the first, so prompting if the UK public offer is more than twice subscribed this portion of the other will rise to just over 62 per cent.

The rest of the shares will go into the so-called international investigations.

share offerings to come.

The difference between the ciling its apparently irreconciltive parts of the affering is partily explained by the need to restaurch the conflict of interest shares to the public through the shares to the public through the usual fixed price offer, but invited the institutions to pitch for the rest of the shares at a higher price through a competi-

ment, which secured an average selling price of 290p a share for the tender offer shares comthe tender offer shares com-pared with 245p in the fixed price offer, has led the Govern-

vestors in Britain, with the clearly expressed intention of widening share ownership. If demand is high enough - that is, if the UK public offer is more what price to fix. (The price will than twice subscribed - this portion of the state of the state in this result of the state of the state

offer. Here, institutional inves-tors in the UK, US, Canada Ja-by hinge on the price which the pan and Continental Europe applicants bld. will tell the Government how many shares they want and how many shares they want and now much they are prepared to pay.
According to theory, the institutions will be prepared to bid for the shares at a price not only higher than that of the UK public part of the offer, but also above the price of RP's already-quoted equity.

This extraordinary phenome-non is explained by the fact that the shares, like those being offered to the UK public, are only partly-paid. Institutional invesinrs, it is argued, will value them more highly than the ful-ly-paid variant because the un-Just over 50 per cent of the shares will be offered at an attractive fixed price to small interests initial outlay will also be reached to the shares of the control of the shares of the control of the

this part of the offer). They will also decide quite arbitrarily which institutional applicants are to receive the shares - a de-cision which will not necessari-

It is this last aspect of the international offering which makes it so unusual It arises for two main reasons. The first is the one frequently put forward by RP Itself in the run-up to the offer. The compa-ny argues that it has grown into a major international business

with some 88 per cent of its as-

the share offering to even out the balance a little, the compathe balance a little, the company representation of the allocation will enable the Government to manipulate the geographical spread of the equity according by.

The second main reason is now it has been difficult or impossible for leaftivitional investors.

avoid the flow-back of shares any doubts on that score, a se-from overseas speculators ries of roadshows have been which proved such an embar-rassment in the British Telecom pan and Europe as well as up

the course of which the alloca-

One point to note is that to mains to be seen at what price many overseas institutions, it is this enthusism will be transpot unusual at all. In the US, for lated into bids: the outcome of example, public offerings are the international offering is not already conducted more or less due to be revealed until just bealong RP lines. The share price fore dealings begin on Friday is set after discussions with the afternoon next week big institutional investors, in

that it will give the Government a degree of control over the aftermarket by putting the shares in the company to give in the hands of friendly, or at them an adequate weighting in least well-behaved, institutions.

Just in case there might be doubte on that score, a se-

flotation three years ago.

and down the UK to help stimulate demand in the issue. The late demand in the issue. The Government's advisers report a favourable response; but it refavourable response: but it re-

Richard Toroidas



DESPITE all the razzle dazzle

in the run-up to the BP share

offering, it is worth remember-

While there is no shortage of

pundits, particularly in the US, who argue that the world's stock

markets can go substantially higher, it is worth noting how far they have risen over the last

World equity markets have already risen higher and faster than in previous rallies, cautions William Hall

Brevity made a virtue

THE PROSPECTUS for the oftional press tomorrow, has been kept admirably short given the size of the company and the share offering. It is divided into sections, of which some are of more interest to small investors

Section 1 gives a brief overview of the company and Section 2 describes how the offer is to be conducted. Section 3 then enters into more details of BP's market, rose by only slightly activities: some applicants may be interested to read how these extend beyond its directly oil
kets, each of which is the London market, rose by only slightly smaller amounts. The FT-Actuaries index of world stock market, rose by only slightly smaller amounts. The FT-Actuaries index of world stock market, rose by only slightly smaller amounts. The FT-Actuaries index of world stock market, rose by only slightly smaller amounts. extend beyond its directly oil-related businesses into chemi-cals, nutrition and mining.

Section 4 gives a brief over-view of the oil industry and describes some of the risks it car-ries. Then Section 5 describes BP's recent financial performance including the nasty downturn in profits in 1986 - before Section 6, one of the most important in the prospectus, describes the company's pros-

Sections 7 to 10 comprise the small print and are of little interest to the small investor. But applicants interested in the hare bonus scheme attached to the offer should read the conditions in Section 11, and every applicant should study Section 12, which sets out the conditions attached to applications and dealings. Section 13 sets out the conditions in legalisitic terms.

Finally there is an application form for people who have not been sent a special one of 110 their own. This is accompanied by explanatory notes which should be studied carefully.

Note that the last day for posting applications is Monday October 26; the last day for handing in applications at any branch of the National West-minster Bank is Tuesday October 27; and the last time for handing in applications at the 33 special receiving centres in big cities is 10am on Wednesday

October 28, at which time the

A test for the bull market's resolve

ing that BP shares are not a law unto themselves, and however optimstic BP managers may be market is celebrating its fifth anniversary and by historical about their company's prospects, the offering comes at a time when most of the world's standards the market has gone higher, and continued longer, stock markets are trading at near record levels. than most previous rallies. Goldman Sachs, the New York investment bank, calculates that there has been a tripling of stock market values over this In the UK, the FT-SE 100 Index started the year at 1679 and, while it peaked at 2443.4 in

mid-July. it ended the third quarter at 2366 - a rise of 41 per cent. Over the same period the The steep decline in US interest rates - reflected in a drop in New York and Tokyo stock mar-kets, each of which is more than US prime rates from 17 per cent in early 1982 to 7.5 per cent a year ago - was a powerful factor behind the explosion in US share prices, and this spilled over into the world's other stock markets as the gap between long bond yields and the return on equities parrowed terms, is up by well over a third so far this year and this follows on equities narrowed. increases of 36.8 per cent in 1985 and 39 per cent in 1986.

FT-A oils relative to the UK market

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In addition, Wall Street has been helped by a substantial reduction in the number of shares outstanding, caused by take-overs, leveraged buyouts and share buybacks. The Japanese market has been fuelled by a surge in domestic liquidity, while in Europe, at least, the rise in share prices has had they are very fully valued. Gold-many UK fund managers what more to do with growth in corporate carming.

The share prices has had they are very fully valued. Gold-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what man Sachs calculates that if Japan is excluded, world stock level of stock markets world-many UK fund managers what many UK fund many U more to do with growth in cor-porate caratogs. However, these factors are

However, these factors are markets are trading on a pro-now well understood by the spective 1987 price earnings markets and Standard & Poor's, multiple of 16.2 compared with the respected US investment an average of 12.3 between 1982 rating agency, concluded in a recent survey of the US stock market that share prices are 'liberally priced' relative to corporate profits, assets and dividends and noted that the spread between stock and bond yields was "exceptionally wide". Its concern about the level of the US market is mirrored by participants in many of the world's other major stock markets.

Japan is in a league all of its own, and despite frequent pre-dictions that it is grossly over-valued, continues to trade on a price earnings multiple of 50 times current year's earnings, 30 times cash flow and nearly six times book value Other markets are nowhere

and 1986. A price to book value of 1.9 times is 27 per cent above the 1982/86 average, and in terms of share prices to cash flow, the current ratio is a third above recent averages.

There is a school of thought that world share prices have been overly cheap in the past,

and this is partly borne out by the far less dramatic long-term performances of stock market indices when adjusted for infla-tion. It can be argued that in an era of lower inflation, there has been a fundamental upwards adjustement in equity valua-tions, and this factor, taken to-gether with the strength of corporate porate earnings, is underpinning current share valuations worldwide

There may be something in this argument, but if you ask terest rates is that the world's

wide their answer often seems to depend on which side of the bed they got out of that morning. There are signs of considerable speculative activity, and in some cases speculative excesses, in all three of the world's major stock markets,

which should give the small investor some cause for concern. Meanwhile, there has been a definite upturn in world interest rates recently, which if it persists is likely to dampen enthusiasm for equities. Since the beginning of the year, short-term US interest rates have risen by 150 basis points and leng term government bonds. and long-term government bond yields have risen by 250 basis points and are now hovering close to the 10 per cent mark. European and Japanese interest rates have also been rising in recent wee

The sympathetic interpreta-

self, underlines another factor which could be a long-term depressant on equity prices. Gov-ernments around the world, and other people with assets to sell, have woken up to the fact that there is a sizeable appetite for the brakes at an early stage, to equities worldwide which has not been fully satisfied. curb inflationary expectations surprising strength of industrial raw material prices. If all goes well, the brakes will be relaxed next year and interest rates will

The British Government unwittingly stumbled on this discovery when it began privatising its nationalised industries, and other countries, ranging from New Zealand to France and Japan, have begun to bring equity issues to the market to satisfy this appetite. Within the next month the world's stock mar-kets will be asked to digest two of the biggest stock market of-ferings in the history of the eq-uity markets. The BP issue, which will absorb around \$12bn, will be followed within a couple of weeks by the Japa-nese Government's sale of over \$30bn worth of shares in NTT, its telecommunications giant. While it would be a brave person who predicted the end of the current bull market in equi-

ties, both issues will test the markets' resolve to move substantially higher.

A colourful world player

the company's operations, it is clear that the US has now assumed the role, with the North sea as a strong second. The 1969 discovery of oil at Prudhoe Bay high above the Arctic circle in Alaska, revolutionised BP's

From being a relatively insig-nificant player it suddenly be-came the owner of 53 per cent of the biggest oilfield in the US, leapfrogging much larger US oil

In an effort to better utilise its Alaskan windfall, earlier this year BP took full control of Standard Oil, which was the first member of John D. Rockefeller's oil empire. It is the sort of historical footnote which would have made William Knox D'Arcy chuckle.

Whereas 40 years ago, Iran BI HIGHLIGHTS was the jewel in the crown of 1966 First Middle East oil discovery

ery. 1909 Angle-Persian Oil Company 1913 Abadan refinery comp 1914 UK Government buys 66.7 per cent stake. 1917 Acquisition of BP marketing organisation, 1927 Oil discovered in Iraq. 1932 Shell and BP form joint UK

marketing organisation. 1935 Name changed to Angio-Francian Oil Co 1518 First oil discovered in Ka-1932 First UE all discove

1951. Iran nationalises oil indus kry. 1954 Name changed to BP. 1965 First gas find in North Sea -West Sale. 1967 Acquisition of Distillers' chemical operations; UK Govern-ment stake falls below 50 per

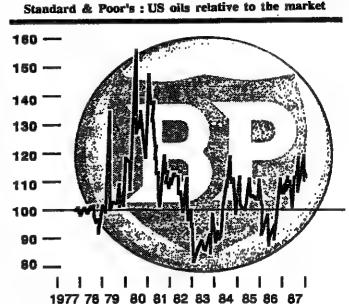
east for first time

1979 North Sea oll discovery 1975 First North Sea oll o Bank of England takes Burmeh's BP shares raising

overall UK Govern 68 per cent. 1977 Alaskan oil starts to flow. Sale of UK Government shares 1978 Acquisition of majority con-trel of Standard Oil.

1379 UK Government sells 1980 Acquires Selection Trust, 1981 Standard buys Kennecott, 1983 UK Gevernment sells

1987 Buyout of Standard Oil mi-UK Government sells ing 32 per cent stake. BP raises £1.5km



Small investors should hold on,

140

says Richard Lambert

An issue with a difference

BIG PRIVATISATION issues shares closed at a premium of represent money for old rope, just over 7 per cent at the end of represent money for old rope. The shares always go to an enormous premium on the first day of trading. And the only risk is that, in the rush for a bargain, you will not be allocated enough shares to make the exer-

That, at least, is the popular view - and it is based on fact. Shares in BAA closed at a premium of 46 per cent at the end of the first day of trading earlier this year. In the case of the Brit-ish Airways and Rolls-Royce issues, the gains on Day One were even greater, at 68 per cent and 73 per cent respectively.

However, the forthcoming BP offer is different in two important respects. First, this is not an initial offer for sale. The shares are already very heavily so that the level at which supply and demand meets is well es-

Second, BP as a business is not one of a kind. BAA and Rolls are unique investments, in that there is no other listed airport manager or aero engine specialist anywhere in the world. But the share price of BP has always to be judged not only on its own merits, but also in comparison with the other oil majors. Stockbrokers make a re-spectable living out of telling their clients to switch from BP to Shell, and back again.

There have been several other secondary offerings in the the record - at least for short term speculators - has been much more mixed than has been the case with initial public offerings like BAA. The sec-ond issue of British Aerospace shares, in May 1985, brought a big premium on the offer price after the first day's trading. Peo-ple who went for the second Britoil offer later in the same year also clocked up a useful short term gain.

But the second and third is-sues of Cable and Wireless shares, in 1983 and 1985, were very much less rewarding for the stags. In the first of these two sales, the partly paid shares actually closed at a small discount after the first day.

The first big BP sale - by the Labour Government ten years ago - brought big gains for the shares performed relatively stags: the shares closed at a first poorly compared with the rest day premium of 23 per cent on the partly paid price. But there ter the sale. were no quick killings to be made out of the second offer for sale, in November 1979, or from the offer for sale by tender of yet more BP shares in the au-

shares since Mrs Thatcher came performance in the coming to power. On average, the new

not quite what the public has come to expect from the privatisation bonanza.

The key to the likely premium in the coming BP offer will like the value which

attaches to the time value of the partly paid shares - a concept which is explained elsewhere in this special section. This will be a much bigger factor than has been the case in other partly-paid issues, because the time-lag between the first and final payments for the shares is very much longer than with oth-er privatisation issues.

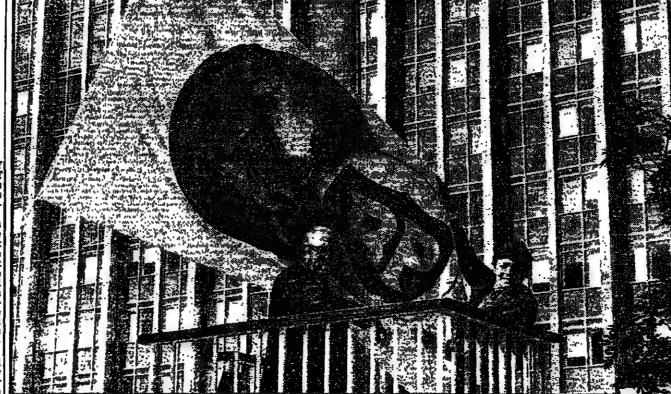
Investors who are interested in anything beyond the very short term have to take another important consideration into account How are BP shares likely to perform once the blaze of publicity in the run up to the offer has been dampened down? Brokers Greenwell Montagu point out that BP share have recently been yielding less than Shell for the first time in this decade, which at least raises the possibility that the share price in the secondary market may have been inflated by all the marketing ballyhoo.

Here again, it is worth looking at precedents. In a large number of the cases where the Gov-ernment has sold shares of companies which are already being raded in the stock market, the short term performance has been poor compared to the rest of the market. To put it another way, if you had bought the shares at the price ruling after the first day's trading and held on to them, you would not have done very well.

Either prices had been pushed ahead too far in the pe-riod before the secondary offer, or the market suffered indiges tion once the new shares were out of the way.

There are exceptions, such as the 1983 offer of shares in Cable and Wireless, which got off to such a poor start but then pro-duced exceptional returns over the following couple of years. In other cases, such as the Associated British Ports sale in 1984 the shares went through a period of inital weakness, and then showed up very strongly. But in the case of all three BP offers, of the market in the months af-

The tentative conclusion is that in issues of this type, you should be ready to hold on for some time if you are not simply out for short term stagging profits. If precedent is any guide, There have been seven big BP's shares are not likely to secondary issues of state-owned show an especially dazzling



a Greater of N M Nothschild & Sons.

Dealing arrangements

Special rates for sellers

BP's fixed price offer so to an attractive premium when dealings begin, it is fair to assume that there will be a heavy sell-off by people who have invested in the issue with the aim of making a quick profit. N.M. Rothschild, the mer-

Yet applicants who plan to be among them should be aware that they could run into serious obstacles in achieving a quick sale - a factor which has re-ceived little publicity in the run-up to the offer.

This is because letters of allotment, telling people how many shares they have been allocated and enclosing a cheque for any refund due, will not be sent out until Monday November 9 Small inventors and the sent out until Monday November 9 Small inventors and the sent out until Monday November 9 Small inventors and the sent out until Monday November 9 Small inventors and the sent out until Monday November 9 Small inventors and the sent out until Monday November 9 Small inventors and the sent out of the sen ber 9. Small investors who do not have an established rela-tionship with a broker will therefore find it very difficult to lowed sell their allotment until at It is least 11 days after dealings have beguir

The same problem bedevilled the British Gas flotation a year ago and brought acrimonious criticism from small investors who felt they were being treated as second class citizens. Big share offerings are time-tabled this way largely for the benefit of institutional investors in the UK and overseas. They are not prepared to toler-

IF THE SHARES being sold in ate a delay to the start of deal-BP's fixed price offer go to an ings because every day that straightforward and fairly eco-fered by the regional co-ordina-attractive premium when deal-passes with their money locked nomical in spite of recent reluc-tors and the Cheltenham & up in the shares increases their exposure to risk. As explained in a separate ar-

ticle, institutional investors are N.M. Rothschild, the merchant bank advising the Government on the share offering, guesses that if past experience with privatisations is any guide, possibly 1m people will be at the hustings when dealings begin at 2.30pm on Friday October 30. were delayed for the small in-vestor's sake, institutional in-vestors would lower their blds to compensate for the increased risk, and the overall proceeds would therefore be much lower. The alternative - to bring forward the posting of allotment letters - is impractical because of the size of the task. If the response from small investors is as great as expected, several million letters of allotment and refund cheques will have to be written and dispatched. Even with the help of computer technology, Rothschild says the re-ceiving banks cannot be confi-dent of achieving the task in less time than has been al-

It is difficult to be specific about which people will be able to deal without their letter of allotment. Established clients of stockbrokers should have few problems, and some bank managers may be prepared to lend a sympathetic ear to their more influential or insistent customers. Most people, however, will simply have to wait - and pray for a rising market in the mean-

Once the letter of allotment

tance among some brokers to deal with small investors.

Few brokers or other intermediaries these days will deal with small investors for a minimum commission of less than 620 plus VAT, if at all. But the Government has made special arrangements with stockbro-kers in 17 cities around the UK who have undertaken to accept letters of allotment from small investors in BP at a specified rate of commission.

The rate is £15 plus VAT for deals worth less than £600 and £20 plus VAT for deals worth £600 to £1,200. The names and addresses of these regional coordinators are in the prospectus, and the arrangements apply

till April 14 next year.

In something of a coup, the Cheltenham & Gloucester Building Society has also agreed with the Government to offer these special dealing arrangements at all its special dealing arrangements are all its special dealing arrangements apply the special dealing arrangements are special dealing arrangements apply the special dealing arrangements are rangements at all its branches until the end of December, thus achieving some highly desirable publicity and no doubt an enlargement of its customer

base. But perhaps the most attractive dealing arrangement for many investors will be the one to be offered by the National Westminster Bank at most of its bigger branches till the end of the year. NatWest will deal for a cent on the next £7,500, with a minimum commssion of £20. Although that minimum is

GLoucester, NatWest deals are VAT-free. Further, the bank will give you a cheque on the spot which you can put straight into an interest-earning deposit account - an important consideration on larger deals, which may outweigh a slightly lower commission rate.

Families wanting to aggregate their letters of allotment and pay only one commission on the deal will be able to do so at NatWest provided there are no more than five letters and they all bear the same address.

One factor which investors should consider before writing out the cheque for their application is which account to draw the cheque on. If a building society cheque is drawn, it loses interest from the date it is written. A cheque drawn on a bank account, however, only loses interest from the date it is cashed. Many building societies, wor-

ried at the extent to which they have been losing funds as a result of the privatisation pro-gramme, now say that investors who draw sums for share applications will not be penalised by loss of interest if they pay all or part of the sums back into their accounts when dealings begin. This arrangement varies from commission of 1.5 per cent on one society to another, so you values up to £5,000 and 1 per should check with your local branch for details.

Michael Tomicins

The wider share ownership drive has had mixed results

says Barry Riley

New portfolios lack balance

LOOKED AT purely as a num-bers game, the Government's drive towards wider share ownership has been remarkably

start on their way down again, which would be particularly good news in the US, given that it will be a presidential election

The optimists believe that the strength of commodity prices will be short-lived and merely

reflects an overdue reaction to a period when commodity prices were unduly depressed. There are few signs so far that

world inflation is accelerating and if this continues to be the

case, then it can be argued that the world's bond markets may

have been over-reacting and, given the very high inflation ad-justed yields on offer, fixed in-

a strong rally. This would be

me markets could be due for

ood news for equities. Nevertheless, the BP issue it-

successful
According to a market research poli carried out by the
City public relations firm, Dewe Rogerson, ahead of the BP flota-tion, and published in August, there are now some 9.4m indi-vidual shareholders in Britain.

Milestones along the route of wider share ownership have in-cluded the BT share offer in 1984, which raised the total to 3.2m, while over the next two years the number climbed to 7m

after the TSB sale, but before the British Gas offer. But the depth and strength of this wider ownership trend are open to question. Only about 3 per cent of these millions of shareholders have proper, balanced portfolios of the kind that are recommended in invest-

ment textbooks, including ten or more stocks. Some 56 per cent are reck-oned to hold just a single stock, and a further 22 per cent have just two holdings. The sums in-volved are usually very small.

In fact, the proliferation of small shareholdings appears to have run way ahead of the Stock Exchange's ability and willing-ness to handle small investors'

transactions.

Last month the exchange's Last month the exchange's chairman, Sir Nicholas Goodi-son, reflected the anxieties of member firms when he criticised the decision of Mr. Nigel Lawson, Chancellor of the Exchequer, to set a minimum inlevel of only £250 in

the BP sale. Other recent privatisations have set higher minima, although in the event scaling down meant that in July's BAA offer, for instance, investors were allotted only a bare 100 shares each. worth only £145 in partly paid form in initial deal-

In promoting share ownership the Government has some fairly basic political motives. To start with, it is seeking to widen di-rect participation in the ownership of industry and is succeeding to the extent that there are now almost as many shareholders (9.4m, and rising) as there are members of trade unions

(10m, and falling).

Moreover, it is attempting to encourage financial independence and a willingness among ordinary people to take their own decisions rather than rely entirely on the collective insti-Measures to encourage em-

ployee share option schemes, which allow employees to save towards a holding in their company over 5 or 7 years
The series of privatisation of-

fers for sale, which have specially favoured the individual investor and have usually pres-

ented him with juicy instant The Jaunch of Personal Equi-

ty Plans, which provide a mea-sure of tax relief for investors who follow certain fairly rigid Such measures have their contradictions, however. The growth of employee share op-tion schemes, for instance, may This compares with only 2m in

explain why so many investors only own one share.

The PEP scheme has been the least successful of the three polrather early to make a judgment). By last month 165,000 PEPs had been set up, rather less than the Government had honed for at this state and hoped for at this stage, and many of them have been estab-

lished by relatively wealthy in-So far the Government has declined to emulate the Monory-type schemes which have found favour on the Continent. These plans are more generous in their offer of immediate tax relief on equity market invest-ments, though at the same time PEPs offer rather more flexibil-ity in the eventual disposal of

One factor not directly con-nected with the Government has also boosted the popularity of share ownership during the past few years - the bull market. After the generally dismal ex-Arter the generally dismal experiences of the 1970s, which disillusioned a generation of investors, the 1980s have made the Stock Exchange appear at times like a place to print money.

But the question is whether the Stock Exchange is an efficient institution though which to trade shares at any rote in

to trade shares, at any rate in the small amounts that are typi-cal of the deals originated by the newer shareholders.

Many stockbrokers are now putting the shutters up against new dealing clients, partly because they cannot handle the business they have already got and parily because they cannot see how they can make money out of this kind of business.

This attitude poses a serious threat to the Government's plans for a shareowning democracy. Small wonder that Mr. Nigel Lawson hit out at foot-drag-ging in the City when he spoke to the annual meeting of the Wider Share Ownership Council last month

But until organisations like the High Street banks and the building societies develop the systems to cope with high-volume, low-cost dealing in securities, instead of trying to charge £20 or more per transaction, the shareholder shareholder revolution have to mark time.

マングラグ

Swan Lake/Covent Garden

Clement Crisp

a whirlwind of manic activity, momentum, so that the fourth An old peasant woman has act is a lyric crown to the semaphored nothings to her evening. But the dichotomy friends; peasants have been between the clear purpose of the dropped baskets, and cushions; the Prince's tutor has bustled about looking like a hyperactive Trotsky. Every single interpreters, who must seek to active Trotsky. Every single impose emotional clarity upon person on stage has been determined to establish charge. determined to establish character, so that one longs to shout out that sterling theatrical adage: "Don't do something, just stand there."

The orchestra under Isaiah

The orchestra under Isaiah Jackson has, meanwhile, been busy sawing Chalkovsky into convenient lengths to build that unappealing structure which is all they seem ready to make of a flawed but glorious score. The sum effect, amid the baubles and hanging lamps of the setting, is of operetta, and not of one of ballet's enduring classics. This insecure presentation is symptomatic of the stylistic indecision that spoils denies her gifts through strain and forced effects, never allow in the Royal Ballet's view of the work. Because there seems no trust in the power of the old ballet to cast its theatrical spell, and no feeling for the passionate drama within Chalkovsky's music (it is dismissed in heartless fashion—and Chalkovsky without heart is not Chalkovsky, the first act is not Chalkovsky, the first act with its drunks and fimmery is an alibi for a production, a fantasy about Swon Lake rather than Swan Lake itself.

Thus it appeared at performances on Friday and Saturday which opened the Royal Ballet's season. That gardens are progresses, is owed to the birds notoniously fast.

Within a couple of minutes excellence of the basic dance of curtain rise on Swan Lake text and to an increasingly sure the eye has been assaulted by appreciation of the ballet's

Borodin Quartet/South Bank Dominic Gill

The 70 minutes that I spent in last Thursday evening's monumental traffic snarl-up in Southampton Row (harbinger of the storm to come?) also included the Borodin Quartet's performance at the Elizabeth Mall of the first two mayarants. performance at the Elizabeth Hall of the first two movements of their namesake's Quartet no.

1. I was not too disappointed, since the third and fourth movements are far and away the best of that early piece in any case; and in them, as in the rest of their programme, the Borodin themselves were to be heard on their finest, most intimate and lyrical form.

exquisitely coloured, but never A memorable recital: it will be remotely overblown, and done without a trace of schmalts. In the chance to hear them in

little first quartet (composed in 1938, later than its number performance at the Elizabeth Hall of the first two movements of their namesake's Quartet no.

1. I was not too disappointed, since the third and fourth movements are far and away case: and in them, as in the rest of their programme, the Borodin themselves were to be many delicate things also, tiny curls of the score, and found many case: and in them, as in the rest of their programme, the Borodin themselves were to be many delicate things also, tiny curls of phrase, passing exchanges, inner conversations. After the interval they similarly filluminated Chalkovsky's first South Bank recital two weeks ago; the extraordinary scheres of Borodia's no. 1, with its uncarthly all-harmonics trio, called great Chalkovsky: but unfolded like an exote and richly-coloured bloom, perfectly formed, perfectly voiced. It was a profoundly romantic performance, in the best and most excited sense of the word, are religibly coloured by many coloured to revise all exalted sense of the word, are religibly coloured by many coloured and most excitable coloured by many coloured to revise all exalted sense of the word, are religibly coloured by many coloured and most excitable coloured by many coloured to revise all exalted sense of the word. remotely overblown, and done seven months before we have without a trace of schmalts. In the whirlwind accelerando which lights up the closing pages of the finale, most complete Besthoven quartet ensembles come slightly un-

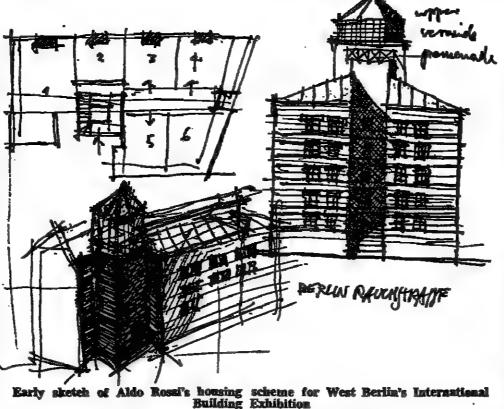
Grants for provincial theatre companies

The Arts Council has agreed Royal, York is an increase of substantial grants to four major provincial theatre companies in the North East—the Theatre Royal York (£344,780), the Leeds Playhouse (£368,000), the Leeds Playhouse (£368,000), the Arts Council's Glory of the Typewear Theatre Company

Leeds Playhouse (£368,000), the Tynewear Theatre Company (£379,500) and the Sheffield Crucible (£718,000).

This last figure is the largest single grant to a theatre outside the London area following the abolition of the South Yorkshipe Matropolities County of the County of the South Yorkshipe Matropolities County of the County of the South Yorkshipe Matropolities County of the Council's Glory of t the abolition of the South Yorkshire Metropolitan County Conneil

The grant to the Theatre from late 1988.



Architecture/Colin Amery

Buildings by the Wall

As a general view it would

The City of Berlin is not simply 750 years old this year—an event being widely celebrated on both sides of the evil wall—it is also the scene of the International Building Exhibition, in West Berlin.

Germany has a long tradition of important building exhibitions: not just displays about

of important building exhibitions: not just displays about building but actual developments that both illustrate new architectural and planning principles and add to the city's housing stock. The kind of didactic and experimental settlement now exemplified by IBA.

Berlin has some year; infinentiement now exemplified by IBA in Berlin has some very influential predcessors. Joseph Maria Olbrich (1867-1908) established the artists' colony at Darmstadt as the tramphant demonstration of the climax of the Jugendstil in 1899. In 1914, in Cologne, the Werkhund exhibition was an exceptional celebration of the pioneers of

tion was an exceptional celebration of the pioneers of
modernism.

It was littles van der Robe
who brought architects as distinguished as La Corbusier,
Walter Gropius, Bruno Taut and
many others to build the
Weissenhotsicdung in Stuttgart in 1927. It was in Berlin
in 1987 that the "Interbau"
prometed the dream of Berlin
as the "city of tomarrow." The
irony of the claim can only now
be appreciated as you look at irony of the claim cm only now
be appreciated as you look at
the isolated blocks, designed to
stand in parkiand in the old
Hansa quarter, by architects
like Le Corbusier, Alvar Aalto,
Arne Jacobsen, Oscar Niemayer
and Walter Gropius.
The idea of the present
Internationals Bausausstellung
(IBA) soes back to the 1970s

(IBA) goes back to the 1970s and was seen as an answer to the damaging effects of much modern planning, motorway in pressure and, of course, the scandal of cruel political division. West Berlin has for any visitor a strange and potent atmosphere. There is the loss of the old centre—the cathedral, the museums, the stadimites are all in the Rast. You can see the old centre at the end of every vista but tantalisingly it and parting its people.

No architectural solution and no modern and hear the process of removing some of the algebrance at the end of the figure of architectural solution and no trick of town planning can planned gardens achieve a least of removing some of the specific of the specific flat and no with the process of removing some of the specific and no with the stadius of a sense of neighbourhood and a sense of neighbourhood and a sense of neighbourhood and the results remarkable. It is unfortunate that a good map the lossing near the stadius of post-modernism — out at the middle of the appetizer, His fellow conspirators are the markable. It is unfortunate that a good map. The South Frica so many of the new buildings and the results remarkable. It is unfortunate that a so may of the new buildings and the results remarkable. It is unfortunate that a fellow conspirators are the loss of post-modernism — out at Tegel. Churles Moore's busing it simply counted—a necessary transition from modernism periodic flat the museums, the Stadius and springs from an older building and makes a new the loss of proportion and form.

In the Rast. You can see the loss of proportion and form.

In the stadius and the results remarkable. It is unfortunate that a fellow conspirators are the loss of post-modernism—out at Tegel. Churles Moore's busing the middle of the appetier. His the middle of the appetier, His to markable. It is unfortunate that a fellow conspirators are the lead of the submit and the results remarkable. It is unfortunate that a fellow conspirators are the middle of the appetier. His so many of the new b

heal the political wound but IBA can, and has, begun the process of removing some of the ravages of war and poverty in West Berlin. It was two men — wolf Siedler and the architect Josef Paul Reihues—who campaigned to ensure that any building exhibition would be concerned to patch, heal and restore the existing structure.

A bill passed by the Berlin ing redolent only of high Senate in 1978 to prepare for pseudery. the IBA is a remarkable social in the other major area for In the other major area for redevelopment, the southern Tiergarten, on the Rauchstrasse there are nine new residential blocks around a well-designed central garden by a range of architects. The most interesting are the blocks by Aldo Rossi (illustrated above in sketch form), Rob Krier and Hans Hollein. In fact this section of IRA is a good place to witness the imposition of transatlantic and European post-modern notions on to the older urban plan that has been reinstated in this part of Berlin, and architectural document. It laid out the aims very clearly—to make Berlin a more attractive city based on its character of polycentricity, historic nature, and the workability of particular Rerlin style of a particular Berlin style of inner city living. The Bill (such a thing would be almost un-known in Britain) stressed the known in Britain) stressed the architects' social responsibilities but gave equal weight to their artistic responsibilities. But the key theme behind all the legal and architectural vebiage has been much quoted—IBA was to 'rescue a clapped-out city." in this part of Berlin,

The use of an octagonal roof lantern on Rossi's block and its poignant view to the east gives a sense of historical reference; Krier's use of sculpture and curved façade is equally suggestive of a richer past.

This year it was hoped that some 3,000 new dwellings would be completed and the same number provided by renovation of older buildings. This target has not yet been met. But there is plenty to see that illustrates the intelligence of the new approach, Because it is more difficult to build careful infill and not sweep everything away the redevelopment of Berlin is slow. Despite this the presence of large numbers of invited foreign architects—the use of the international competition—means that Berlin is the place to assess much recent architect-From the southern Tiergarten From the southern Tiergarten it is but a step to the distressingly damaged diplomatic quarter. Here former embassies are being repaired and improved with schemes by Kurokawa for the Japanese and Portoghesi for the Italians. Around the National Gallery, one of Mies van der Rohe's last works, there are IBA plans for cultural and science buildings. to assess much recent architec-tural achievement.

James Stirling, Michael Wilford and Associates' Science Centre is not yet completed but promises to be one of the most extraordinary, curious and outrageous new buildings in Berlin.

be fair to say that most of the new residential buildings in Berlin represents a break with the abstract and technocratic post—stylistically there is considerable variety—the whole IBA is an extraordinary

tradition.

Berlin offers so many other architectural pleasures, East and West, The restoration of and west. The restoration of the epic, while the napless play and miscellanes but only 81 respichants and the Huguenot church tower are all encouraging reasons to visit East Berlin.

The epic, while the napless play paintings, together with prints and miscellanes but only 81 respichants and the Huguenot church tower are all encouraging reasons to visit East Berlin.

Girlfriends/Playhouse

wielding.

Michael Coveney

The sale of 10 penthouse apartments above the old BBC Playhouse in Northumberland Avenue on the Embankment will, it is proposed, cover the Glaswegian Jasm costs of refurbishing and reconsing the theatre itself. This New Yorkstyle "air space" silk—nicked overpiect was unveiled on Friday night: Howard Goodall's night. night: Howard Goodal's new musical Grifyriends occupies the stage where, between the two Wars, Gladys Cooper presented Somerset Maugham's best plays, Alec Guinness made his professional debut, and Nancy Price ran her People's

National Theatre.

The BBC leased the place for 20 years: this is where The Goon Show and Hancock's Half Hour were recorded before live flow were recorded before five audiences. So most of us must feel an important part of our lives is here. Since 1975 the theatre has been dark.

The facelift provides a pleasant open foyer that is a welcome refuge from the bustle of villings. Street, and the de-

pleasant open royer may is a welcome refuge from the bustle of Villiers Street and the depressing open air cardboard dornitory under Hungerford Bridge. The box office area looks a trifle cramped, as are the two bars, at below-stalls and balcony levels, each adorned with cafe scenes inoffensively executed in Gross style and Dufny pastels.

The auditorium itself has been little changed and hardly decorated. It retains what one historian called "a demented vulgarity," an attractive intimacy offset with gilded caryatids and death masks, painted mythical acenes, balconied hoxes, and the one extant canvas Act Drop in London.

A perfect setting, in short, for a new musical imocent of technological aspiration. Unfortunately Citificients in itself. of technological aspiration. Unfortunately, Girlfriends is little

more than a jejune musical doodle devoted, for no apparent reason, to the Women's Auxili-ary Airforce in the last War, And the best reason for seeing it, ironically in the light of Mr

Goodall's well-aired strictures on other West End musicals, the design.
A new girl joins the hut.

Another girl falls in love with that, unlike the bombers, goes a pilot. The pilot's sister is precisely nowhere all evenagitated because Phyllis is a ing, with not even an establishblack widow, a mark of death. ing melody to bolster the most interesting side of Mr Good-ali's compositional talent, his Glaswegian Jasmine carries the can for an underground underwear operation using parachute silk-nicked over the knickers, instinct for re-casting syncopated dance forms (beguine, tar-

This sombre silhouette of women in dreary uniform has most resembling baroque ora-Kate Young's musical direc-tion is as precise and loyal as its musical moments when Mr Goodall lets rip with some robust canticles of war, and the it was on The Hired Man, Goodall's last sombre hymn to vanished community values. John girls, led by Hazel O'Connor's aggressive Phyllis with severe Retalack's direction is brisk and competent, and Miss O'Connor is admirably partblonde hair and a cavernous red gash of a mouth, sing up a storm. But, really, the show is all over in the first nered by David Easter as the 15 minutes of up-beat rhythmic doomed pilot. But the star of the show is role definition, feminie pluck, would-be masculine muscle-flex-

undoubtedly the designer, Wiliam Dudley, who has coning and quaint exercises in jured a misty grey world of looming Hawker Siddeleys, reradio tuning and spanner ceding runway lights, steel con-trol towers and an elegant are that combines shadow and sub-Mr Goodall's lyrics are honest but risibly dull ("These blooming skirts are far too small—my stance as an aerodrome outline bottom hurts" or "If they're romantic we're almost there/ This geometricaly intriguing And we go crazy for Brylcreemed hair"—the latter excent scrims and Mark Henderample eschewing an obvious inson's smokey lighting, comes
ternal rhyme with "frantic").

The music is a curious hybrid
of anthem, chant and ballad close enough.

antella, rumba) in a scheme



David Easter and Hazel O'Connor

Room Service/Leicester Haymarket

Michael Coveney

Room Service at the Leicester Room Service at the Leicester Haymarket is the 1937 Broadway farce by John Murray and Allen Boretz that became, with very few adjustments, the Mark Brothers' movie of the same title in 1988. Like Three Men on a Horse, the show was one of George Abbott's big screwball stage hits. George Kaufman, in fact, suggested that Room Service be re-christened "Three Men on a Script."

An impoverished and unscrupulous producer, Gordon

scrupulous producer, Gordon Miller, the Groucho role, is shacked up in a seedy Times Square botel trying to raise money for a new play. He is also stringing along 22 actors (whom we preser see) later

thee from desk ("harry, pit on three of my suits") and scoffing a room service meal they have hijacked from a Russian waiter in exchange for casting him in the epic, while the hapless play-wright recites from his serrible

cries the up-State innocent Leo (Clive Arrindell) trapped in a vortex of deceit, dud cheques and missed deadlines. The trio finally compel him to cries the up-State innocent Leo (Clive Arrindell) trapped ("I at him up to the neck but in a vortex of deceit, dud cheques and missed deadlines. The trio finally compel him to feign suicide on opening night. The play, of course, is a big hit, the apoplectic hotel manager (John Savident) is placated, and Leo will marry the adoring skivvy (Pamela Moiseiwitzch in the Ann Miller Cameo).

moose head belonging to Harry ("I at him up to the neck but drew the line there") and a huge stack of bananas is deeply attractive. And nothing much has changed in the silly business of putting on plays with sakily arranged finance. But the requisite incisiveness of style escapes most of the cast. With the exceptions of Nick Edmett's touching sidekick in a Jackie Coogan cap and orange

Room Service is not one of the best Marx movies—I remember little of it except a classic Groucho lope across the lobby—nor is the play, without impeccable direction, one of the best Broadway farces. Our current fad for this genre is in danger of becoming manneristic and Mr Hack's direction, which runs out of second act steam, is better at achieving overall mood rather than mechanical

brilliance. The wackiness of such incongruous props as a stuffed I'm a doc "?

moose head belonging to Harry the requisite incisiveness of style escapes most of the cast. With the exceptions of Nick Edmett's touching sidekick in a Jackie Coogan cap and orange longjohns, and Christopher Guinee's affecting refugee from the Moscow Art Theatre, they are inclined to fluster.

Still, the evening amounts to a cherishable collector's item, and Douglas Heap's meantangibly musty hotel room is all too familiar to anyons familiar with New York. I tremble to suggest textual emendation, but might not a harassed doctor's protestation of civic status sound better as "I'm not a dick

'Mr Cartwright's Pictures'

bequest to Dulwich College by the actor, bookseller and pub-lisher William Cartwright by showing it in its entirety for the

Dulwich Picture Gallery is to The collection contains the elebrate the tercentenary of the largest single holding of the work of John Greenhill (1642-1676), one of the earliest English portrait painters, and includes portraits of the Cart-It consisted originally of 239 wright family, a self-portrait paintings, together with prints and a portrait of the then Duke and miscellanes but only 81 re-

Mr Cartwright's Pictures runs from November 25 to February 28 1988.

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Europe's Business Newspaper

Arts Guide

Manie Upoday, Opera and Ballet/Tuesday, Thestra/Whitnes-day, Exhibitions/Thursday, A selection

Music

Bruno Cueiso, pismo recital (Mon). Comedia des Champs Elysten (45041215)

(45041215).
brchestre Coloune conducted by
Pierre Dervaux, Gabriel Tacchino,
Solist Villa-Lobos, Gerschwin, Ravel (Mon). Salle Pleyel (45810838)
ffacilyn Hora recital, Martin Katz, piano (Mon). Théatre de l'Athe

ed by Anne-Marie Deschamps: Lithurgical play about the three maries (Tue). Saint-Louis en-IIsle church (439m4848) serre National de France conducti-

ed by Rudoff Barshai, Bruno-Leon-ardo Gelber, piano: Beethoven (Thur). Thèitre des Champs Elysées (4T203637)

NETHERLANDS

Amsterdam, Concertgebouw. Alain Lombard conducting the Hague Philharmonic, with Jaring Wulta, vi-otin: Bartok, Teheikowsky (Mon). Recital Hall: Music by Constantijn Huygens (1690-1687) (Tue). The Xenakias Ensemble: Xenakia, Feld-man (Wed). Piano recital by Paul Komen: Faure, Liszt, Messiaen, Chopin (Thur). [71 83 45]. Irrecht, Vredenburg: Hartmut Haenchen conducting the Nether-

lands Philharmonic, with Frank Peter Zimmermann, violin: Bartok, Tschaikovsky, Schumann (Wed, Thur). Recitni Hall: Concert of electronic music Rai, Lippe, Minjard, Kergomard, Gutiman (Tue). Mozart racital by Stanley Hoogland and

The Hague, Philipszaal. The Nether-lands Philharmonic Chamber Ea-semble conducted by Antoni Ros-Marba, with Miklos Perenyi, cells:

Schubert, Tchailovsky, Bartok. (Mon). (60 38 19). Irahem, Music Sacrum. Gidon Kremer, violin, and Martha Argerich, plane: Schumana, Bartok, Franck (Mon). (51 81 91).

NEW YORK

Carnegie Hall: Detroit Symphony, Gunther Herbig conducting with Juilliard String Quartet. Hindemith, Spohr, Beethoven (Tue). (247 7800). Herkin Hall (Goodman House): American Composers Orchestra. Mixed ican Composers Orchestra. Mixed programme (Tue); Joan Fuerstman mezzo-coprano recital with Frank Taplin piano. Strausa Mahler Chausson (Wed); Boston Camerata, Joel Cohen director. All-Monteverdi programme (Thur). 57th w. of Broadway (362 8719).

Kaufmann Hall: Chamber Music at the Various of Landon Montey Montey (Markette Montey). the Y. Jaime Laredo director, Mo

zart, Arriaga, Silverman (Tue, Wed). 1395 Lexington Av. (831 8803). ew York Philharmonic (Avery Fisher Hall): Felix Kruglikov conducting, Miriam Fried violin. Brahms, Shoe-takovich (Tue); Erich Leinsdorf conducting, Jorge Bolet piano, Sibelius, Grieg, Borodin (Thur). Lincoln Cen-ter (874 2424).

WASHINGTON

National Symphony (Concert Half): Tamas Vasary conducting, Nancy Crutcher Tumnicliffe bagpipes, Mo-zert, Davies (Tue); Fabio Mechetti conducting, Nicongr Zabaleta harp. Debussy, Ginastera, Dvurak (Thur). Kennedy Center (254 3716). Detroit Symphony (Concert Hall): Canther Herbig conducting with

October 16-22 Juffliard String Quartet, Hindemith, Spohr, Beethoven (Wed), Kennedy Center (354 3778).

CHECKED

The Academy of Ancient Music (Or-chestra Hall): Christopher Hogwood conducting, Stephen Hammer obce, Catherine Mackintosh violin, Han-del, Vivaldi, Bach (Wed), (485 8111). Chicago Symphony (Orchestra Hall): Pierre Boulez conducting, Boulez, Stravinsky, Bartok (Thur). (485 8111).

TOKYO

conductor Heinz Rogner, soloists Misako Watanabe, Naoko Ihara Masatoshi Sasaki, Hermann-Christian Poister, with Shin-Yu-Kai Chonan Poister, with Sain-Nu-Kai Cho-rus, Beethoven's Missa Solemais. Suntory Hall. (Mon.), (270 6191). Isaac Stera, Violin; Emanual Ax, pia-no; Yo-Yo Ma, cello. Beethoven, Schubert. Refugees International Benefit Concert. Hittomi Memorial Hall Shuwa Women's College Sain-

Henefit Concert. Hitomi Memorial Hall, Showa Women's College, Sangenjaya (Tue) (580 9111, ext. 3548/3548).

Tokyo Symphomy Orchestra conductor. Barion Ionescu-Galati with André Isoir, organ. Glinka, Pouleno, Tchaikovsky. Sontory Hall. (Wed) (555 1010).

(505 1010). Setrich Fischer-Dieskau, baritone. Schubert's Winterreise, D.911. Suntory Hall (Thur). (505 1010).

Retterdam Philharmonic Orchestra, conducted by James Conlon; piano Michie Koyama. Liszt, Mahler, Tokyo Bunka Kaikan (Thur).

Saleroom/Antony Thorncroft

\$2m expected for Gutenberg

on Thursday when a first edition of the Gutenberg Bible, the first substantial printed book, comes up for sale. It was produced in 1454 and only 48 copies are known to have survived. Most of these are in institutions. This copy consists only of the

Old Testament, but it is in excellent condition. It comes from the collection of the late Estelle Doheny, a famous Los Angeles philanthropist, who was created a Papal Countess in 1939. She paid \$70,000 for it in 1950 and Christie's is expecting to sell it for up to \$2m. A Gutenberg Bible still holds the auction record for any printed book — the \$2.2m paid at Christie's in New York in 1978: but this was for a complete version_

Christie's is disposing of the 15,000 volumes in the Doheny library over seven sales and 20 months. This first offering consists of 136 lots of incunabula— books printed before 1500. The two British books in the sale are both fragments of the first edition of Chaucer's "Canterbury Tales," printed by Caxton in 1477. One, of 65 leaves, should make \$40,000.

The highest price of the week, however, is likely to be not at Sotheburg New York

paid at Sotheby's, New York. tomorrow, when the Porter Churchill is on offer. It is Rhodes diamond, a flawless rare—there is no exam stone of 54.99 carats, should the Royal Doulton Mus attract bids of around \$3m. It and could sell for £7,000.

The event of the week takes was discovered at Kimberley place at Christie's in New York in 1880 and considered the finest diamond ever found in South Africa. Previous owners include the second Duke of Westminster and the Maharaja

of Indore.
In London at the Sotheby's auction of ballet and theatrical material on Thursday, a costume worn by Nijinsky when appearing as Krishna in Diaghilev's ballet, Le Dieu Bleu, should attract bids up to £8,000. It has been sent for sale by Lady Gibson, wife of the former chairman of the Arts Council, and for many years has been and for many years has been on display at the Royal Opera House Covent Garden. It is in almost perfect condition and may be the last of Nijinsky's costumes to appear at auction: most are in museums.

On the same day, in an objects of vertu section, a collection of opera glasses, ranging in date from 1840 to 1900 and in price from £100 to £500, come under the hammer. Accom-panying them are fans of the

One of the most fanatical of collecting groups are the Royal Doulton character jug fanciers and they will be out in force at Sotheby's sale in Chester on Wednesday when a jug bearing the features of Winston Churchill is on offer. It is very rare—there is no example in the Royal Doulton Museum—

FINANCIAL TIMES

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Monday October 19

Running for President

fore a presidential election for one of the main American political parties to be apparently bereft of clear and convincing can-didates, but two is a large number. Normally primary campaigns, intense in one party, serve to sharpen the national focus to the point that even hopeless long shots like Barry Goldwater in 1964 and George McGovern in 1972 acquire a kind of legitimacy that at least commands respect. Sometimes the process elevates rank outsiders to the White House, as with Jimmy Carter, a Southern governor of note but undiscernible in the polls in October,

History and tradition will probably reassert themselves tion. The problem with the again in the year ahead in the Democrats, who might have US, but the double void strains the system. It also makes it imnot who is running, but who is about the current state of the field. Not only does no cardinent qualifications - Governor date in either party appear to stor Bill Bradley of New Jersey stand out on merit and record and Senator Sam Nunn of Georbut It is also unfortunately the case that men and women of the story of the st case that men and women of quality appear deterred from running, in part by the unattainable standards in public and private lives that they are ex-

pecied to meet.
The two nominal front runners declared their candidacies last week and both are, at this stage, widely perceived to be very vuinerable. The Rev Jesse Jackson, on the Democratic Jackson, on the Democratic side, is a controversial figure, but with an acute political sense. However, if his colour were not a bar, which it is, his policies, now very much of the old-style left so badly defeated in 1984, would seem out of step with the times. Vice President George Bush has filled many posts, but curricula vitae unposts, but curricula vitae upsupported by an independent sense of purpose are generally not enough, as the histories of George Romney in 1968, Ed-mund Muskie in 1972 and Mr Bush himself in 1980 demon-

Mixed blessing

Mr Bush has a tough row to hoe this time as well. First the Renganite right, which is very influential at local Republican level, distrusis him; second, his principal mainstream oppo-nent, Senator Bob Dole, is an experienced campaigner, now bolstered by two exceptional

professionals from the Reagan Cabinet, his wife, Elizabeth Dole, and Mr Bill Brock, and ispossessed of an instinct for the jugular. One small bet would be on Mr Dole doing to Mr Bush what Walter Mondale did to Gary Hart in 1984 by asking the killing question, "where's the beef?" But Mr Dole's acquisition of pragmatic skills since his poor performance as President poor performance as President Ford's running mate in 1976 cannot disguise that he is a man who still has to display a breadth of vision. For both, President Reagan's shadow, now a mixed blessing, looms

large.
At least the Republicans have two candidates who can claim some level of national recogniof the race. Perhaps one of them, Mr Cuomo most likely, la waiting for a primary deadlock and a draft, but that is not, as six other declared candidates have divined, the usual way to win a nomination.

Among other causes, the ab-sent three do not want, under-standably, to endure what they know they would have to en-dure. This year already, Mr Gary Hart and Senator Joseph Biden have withdrawn because of what amounts these days to "scandalous" behaviour, extra-marital sex and plagiarism re-spectively; Governor Dukakis's campaign is under a cloud for having implicated Mr Biden; the Rev Pat Robertson has been found not to have practised 35 years ago what he now so piously preaches; Congresswoman Pat Schroeder decided it really

Pat Schroeder decided it really was not worth it (having looked at what happened to Ms Geraldine Ferraro in 1984).

The American public has every right, especially given the scale of the problems now facing the nation, to know the characters of those who would lead. But, in this media age, the scrutiny seems to have got out of tiny seems to have got out of line with reality. If only the bland, the specious and the blow-dried run, nobody gains, least of all the office of the President of the US.

Posturings in Vancouver

ended less than harmoniously, the scoring points. After all, as a number of statements, in-cluding interviews with Mrs monwealth matter as well. It is

cluding interviews with Mrs monwealth matter as well. It is most unduly wise unnecessarily not unduly wise unnecessarily to offend the leaders of such that. Very few Commonwealth Conferences have been conducted entirely in a spirit of sweetness and light and there is a lot to be said for the heads of state and government alring their differences face to face. Nor does the disharmony necessarily monwealth matter as well. It is not unduly wise unnecessarily to offend the leaders of such countries as India and Austratis, to name but a few, especially when an exercise in tact might have led to a much smoother conference.

That said, it remains impossible not to wonder why a group of countries that has spent so much time over the years trying their differences face to face. Nor does the disharmony necessarily mean that Mrs Thatcher was wrong and that the rest of the Commonwealth was right.

Two elements, however, seems to have been conspicuously absent. One, perhaps especially on the British side, was a feeling for diplomacy. The other, more apparent among the rest, was a recognition of the complexities of the problems that many Commonwealth coun-

Mrs Thatcher can sound more strident than she is, as many people at home have learned to people at nome have learned to understand. She was also in a strong position. She is opposed to an extension of sanctions against South Africa and recently won her third general endselection in a row. Most Commonwealth leaders accepted in advance that she was unlikely to budge on that issue. Yet there is a world of differthe effect; I won, you lost and going on patiently to explain why an extension of sanctions may not inevitably produce the desired results of either a col-Japse of the South African Government or persuading it to seek a settlement with the ma-

The case for further sanctions is not self-evident. There is very little reason to believe that the sanctions imposed so far have led to the South African authorities becoming more liberal; they may even have had the contrary effect. And when it comes to the front-line states, those countries most affected by the South Africa. Britain can scarcely be said to be doing give the Commonwealth some purpose after the unsatisfactory in Vancouver. Who spill-over of the troubles in such constitutional questions more perhaps, but that is for outing in Vancouver. Who discussion - and discussion of a knows? It might even have some discussion - and discussion of a knows? It might even have some kind that did not command all relevance to South Africa. After

that much time in Vancouver. points that might have been wealth states, only writ much more reasonably made, more in larger.

THE Commonwealth Conference in Vancouver last week international order than a poliended less than harmoniously, as a number of statements, inended less than harmoniously, internations in the Conended less than harmoniously, international order than a poliended less than harmoniously international order than a poliended les

much time over the years trying to deal - on the whole ineffectuto deal - on the whole ineffectu-ally - with the problems of South Africa should give so lit-tle attention to problems at least theoretically within its do-main. Those are legion. The coup in Fiji and its subsequent departure from the Common-wealth are part of them. So are the troubles in Sri Lanka which the troubles in Sri Lanka which now amount to civil war. Nearly all Commonwealth members have, or have had, problems of inter-racial disputes within their own territory or just across the border. Many of them are still trying to devise a con-stitutional means of dealing with them.

That really is what the Com-monwealth is, or could be, about. What its members have in common, including Britain, is precisely the inter-racial mix. It is fanciful to suppose that all of them can resolve them by a democratic system of one per-son one vote based on a multi-party system. Britain has found that difficult enough in Ireland. Canada had its problems in Quebec. There is a case for entrenched clauses, for special statutory provision for minorities and for systems which, per-haps only temporarily, are less than direct democracy and em-brace reverse discrimination.

More than any other body the Commonwealth ought to be in a position to look at ways of dealing with inter-racial tensions more harmoniously. Its members know the agonies at first hand. A high level group on hat much time in Vancouver.

All those were reasonable the problems of many Common**ECONOMIC CO-OPERATION**

Mr Baker's dollar gamble

BY ANY standards, it has been an extraordinarily abrupt re-versal of US economic diplomacy. Only three weeks after join-ing with other Group of Seven finance ministers to paper over the cracks in a vaunted effort at international co-operation, Mr James Baker, the US Treasury
Secretary, emerged from a
meeting at the White House
with President Ronald Reagan last Thursday to deliver a sting-ing attack on the economic poli-cies of one of Washington's clo-sest allies - the Federal Republic of Germany.

Increases in West German in-terest rates engineered by the Bundesbank were not, he said, reflective of the spirit of our recent consultations. Just in case anyone did not

Just in case anyone did not get the message, there it was again in Saturday's Washington Post. Alongside a picture of the Treasury Secretary, appeared the words of "a key administration official" denying a report that the US will force the dollar down, but insisting that the US will not follow Germany "into will not follow Germany Into deflation by raising US interest rates in response to German rates. The report added that the US could tolerate a lower dollar if the markets took it there" and "If the Germans don't stor squeezing their (econo erowth.

Nor has Mr. Baker confined himself to rhetorical rebukes, on the week of 9.49 per cent. If The clear implication is that unless West Germany changes course, Washington will let the US dollar fall on the foreign exchanges, a shift which would warkets, by the apparent co-organic policy. weaken the competitiveness of West German exports and thus the German economy. Washington is seething at Bonn's refusal to engineer a sufficiently high pace of economic growth at home to help curb the US trade deficit

Mr Baker is, however, too much the politician to be unaware of the gamble he is taking. Even as he was talking with
Mr Reagan, the prime lending
rate was rising to 9.75 per cent
and the Dow Jones Industrial

THE WEST German Finance Ministry and the Bundesbank, the constitutionally independent central bank, face a highwire balancing act in future months which will stretch marks and simply in the twin decision-making centres of Bonn and Frankfurt.

Mr Baker's irritation at the Bundesbank's interest rates policy may be just a foretaste of trans-Atlantic strains to

On the one hand, the mone on the one pand, the mone-tary authorities want to damp-en undue spward pressure on the D-Mark - both against the dollar and currencies in the European Monetary System (EMS) - in order to protect West German errorit.

German exports.

This requirement is undoubtedly given greatest to the Finance Winter. weight by the Finance Ministry: Bonn is most responsive to the political risks at home and abroad of a fresh climb in the D-Mark. Apart from a storm with the Americans, they include a further rise in 2m-plus unemployment and the possibility of another EMS realignment before next spring's French presidential elections. On the other hand, the Bundesbank wants to start tighten sbank wants to start tighten-

economic outlook and a percep-tion that Washington is getting the rough end of February's Louvre deal, when the group of seven agreed to try to stabilise exchange rates and co-ordinate economic policy.

Since he took office in early The gambie is neightened, according to some in the financial markets, by the apparent co-ordination last week between the Treasury and the nominally independent Federal Reserve Board. The Fed timed its interpretations in the New York mon-

West Germany

1985, Mr Baker has been trying to engineer a steady reduction in the US trade deficit while maintaining economic growth.

As next year's presidential elections draw closer the latter priority bulks larger in his thinking. As he said in a recent interview: There are three is-sues in any presidential race: the economy, the economy and

ing trends in the financial mar-kets. The rise in share prices which has been helping the economy grow has gone into re-verse as interest rates in the US have risen sharply. Apart from climbing long bond rates (see chart), politically sensitive mor-tage rates are heading for the 12 per cent mark.

per cent mark.
At the same time, the expected improvement in the US trade deficit appears to have petered out. In the third quarter, preliminary indications suggest the higher trade volumes which began late last year and which have helped to boost economic growth in 1987 have the economy, the economy and the economy.

In the past few weeks, Mr Baker has seen some very disturb
to keep the US economy ex-

In these circumstances it is easy to see why Mr Baker is frustrated. He finds himself de-fending a relatively fixed dollar

panding around the 3 per cent

rate next year.

Standard & Poors

United States

exchange rate, which looks in-creasingly like it needs to fall further (especially in real terms). He is suffering the ad-ded burden of higher interest rates, something which adds to the debt problems of the Latin American countries which an American countries which are important US export markets. At the same time he faces an ally, West Germany, whose reluctance to grow faster he sees as another threat to the continua-tion of US economic expansion. He is well aware too that in both Germany and Japan, as

well as on Wall Street, America's prospects of correcting a huge trade and current account deficit without a recession to squeeze domestic demand, are being increasingly discounted.

There is thus a concern in Washington that Bonn, by tightening its monetary policies and so helping to push US rates higher, is in effect forcing the US to accept the economic slowdown which some officials in these countries are saying is needed to begin to reduce the needed to begin to reduce the trade imbalance. Baker is say-

trade imbalance. Baker is saying we are not going for this option," says one top policymaker in Washington.

He concedes however that the US is not well placed to resist these pressures. It is in the position of depending on foreign capital to keep its economy expanding. And it is in the US that inflationary pressures are the most intense and where policymakers' room for manoeyre is makers' room for manoevre is most constrained.

It is around judgements about inflation that the economic policy debate now revolves.

Both Mr Baker and - to the dismay of the markets, given their inflationary fears - Fed of-

their inflationary fears - Fed of-ficials are insisting that, as Mr Baker put it last week, "inflation is under control."

With the financial markets in-creasingly questioning whether the Fed under Mr Alan Green-span will indeed be prepared to risk recession to fight inflation, it is not surprising that some European policymakers are European policymakers are sceptical. As one European monetary official remarked last week about the potential cost of supporting the dollar: "we do not want to import that much inflation to do it."

flation to do it."

Predicting the outcome of the Treasury Secretary's new initiative is hazardous, however, for much will turn on how the world's financial markets react over the next few weeks. A lot of money has been lost this year. money has been lost this year by people who guessed wrong.

Stewart Fleming

"A stronger D-mark may not be a catastrophe"

ing its present expansionary monetary policy, to tone down traditional German worries about resurgent domestic inflation. The faction favouring such a tightening within the 18-member Bundesbank policy-making council appears to have grown strenger in recent weeks.

The dilemma for the West

ventions in the New York mon-ey markets to signal that the sharp rise in the discount rate some Wall Streeters had been advocating to steady the mar-kets, would not be forthcoming-et least not yet.

at least not yet. What accounts for Mr Baker's

decision to toughen Washing-ton's stance? In a nutshell, it is growing concern about the US

The dilemma for the West free differential for the west Germans is not a new one. But in view of the current delicate state of both the domestic and world economies, it is particularly scute.
For 20 years, under both

fixed and fleating exchange rates, the Bundesbauk has struggled to steer a middle course between the often can-flicting goals of domestic and external monetary stability. With the notable exception of the extreme D-Mark weakness at the beginning of the 1980s, the German coursery has been the German currency has been under almost continual upward pressure. In the last resort, the Bundesbank has always played true to the "stability first" creed inserted in its founding statutes, allowing the D-Mark to appreciate in the belief that the anti-inflationary effects of currency revaluation would outweigh the problems for expert competitiveness.

Now the view is gaining ground that the Bundesbank is moving - albeit hesistantly - towards tightening credit policy. Partly because of the split within the Bundesbank's council over the advisability of

cil over the advisability of higher interest rates, the central bank is pointedly allowing market psychology to drive short-term. interest rates higher rather than taking

higher rather than taking clear-cut action itself.
Werries about higher inflation in the US and the Beam Government's clumsily-handled decision to bring in a 10 per cent withholding tax on downestic bonds and savings from 1989 led last week to a rise in interest rates at the lenger

The Bundeshank believes that, although the withhelding tax may be justified on the grounds of tax efficiency, its timing was highly anfortunate. Mr Karl Otto Poehl, the Bondeshank president, has criticized the measure, on the Bondesbank president, has cri-ticised the measure on the grounds that it will drive up

borrowing costs.

The risks of higher interest rates have to be weighed exceptionally exercially.

Mr Pochl is playing down the present roughly 8 per cent annual rise in the Bundesbank's money stock (fit wardetick of k (its yardstick money supply) compared with a 3 to 6 per cent target. He be-lieves inflationary dangers are subdued, and any significant interest rate rises could merely bring in destabilising 'hot

money.

Prices will be rising by no more than 1 per cent on a year-on-year basis by the end of the year, although the trend may accelerate to 2 to 3 per

cent by the end of 1968.

Mr Poehl's deputy, Mr Helmut Schlesigner, who heads the oppesing faction on the Bundesbank council, takes a more orthodox monetariat view. He does not deny that higher money supply will feed through into higher inflation. But both he and a number of other conservatives on the Bundesbank's council are werried about the long-term risks.

By building up public belief in the efficacy of the money stock target to keep down inflation, the central bank runs the risk of itself encouraging a

risk of itself encouraging much-feared 'inflation mental-ity' if it new decides to ignore two years of overshooting.

A breakdown of the Louvre

currency agreement and a fur-ther fall in the deliar would certainly hit West German business confidence, which already suffered from last year's dollar decline - a principal fac-tor behind this year's slow-down in economic growth to a probable 1987 rate of no more than 1.5 per cent. In view of the country's high

In view of the country's high dependence on exports (making up one third of gross national product) the Bundeshank likes to point out that any dent in exporters' confidence quickly works through to depress the whole economy; its ability to suck in imports declines and the reduction of the trade surplus slows. trade surplus slows.

But, with the shock of last year's dellar decline past, German ladustry has shown itself entrepetitive enough to live with a dellar around Daillen. Export orders this number have been recovering, and the country's current account surplus, benefitting from continued cheapness of imports, will fall only slightly in 1907 from fall only slightly in 1967 from last year's record DM80bm (£26.6bm).

A cine to what happens next may therefore come from one Bundesbank council member by no means a monetary hard-liner - who says, "a stronger D-link action the dollar would

David Marsh

CARDIFF, OCTOBER 18 **Men and Matters**

A long way for Walker

Last Tuesday Peter Walker found himself in Cardiff's St. David's Hall launching the 800th anniversary celebrations 800th anniversary celebrations of the journey through Wales of Giraldus Cambrensis, cleric and scholar. It must have seemed to him s long way from the time he was piloting major legislation like the reorganisation of the water industry through the Commons.

If he had any such thoughts, he kept them to himself. Walker ne kept them to himself, warker appears to have taken to Wales like a duck to water. Hearing of his appointment last June, after the election, people in Wales thought that the last wet in the Cabinet had been put out to graze in the wettest part of the Kingdom. There were rumours that he would sit in Gwydr House, home of the Welsh Office in London, and enjoy the incomparable view down Whitehall, commanding, as it does, a bird's eye view of the comings and goings in Downing Street. Walker has confounded crit-ics. He brought his family to

TOSIKO TOSIKO STATE

Must be difficult for Peter Walker as an Englishman - be'll soon have to learn Japanese as well as

Cardiff for a couple of days in the holidays to do the usual tourist bits and has since been assiduous in pursuing the minutia of ministerial work. No chore appears too trivial; he may not be the political flavour of the year in a country that leans even more to the left than himself but he is respected for his openness and approachabil-

Mrs Thatcher may have length-ened since his arrival in Car-diff, but Wales gives him one inestimable advantage over most of the others that could prove useful when the crunch comes. The Secretary of State for Wales, like his Scottish counterpart, sits on all the important Cabinet committees. More than most ministers, Wales knows ex-

Black ties

The crachach of Wales, known elsewhere as the creme de la creme, will be out in force in Cardiff on Wednesday night black tie de rigeur - to help the Principality Building Society celebrate breaking through the Brian David, the chairman

and a former timber importer with local concern Robinson David, will welcome the great and the good in the city, including Sir Idwal Pugh, one-time permanent secretary at the Welsh Office, Sir Alun Talfan Davies, Sir Donald Walters, of Chartered Trust, who is heading pality. the body merging the University of Wales Institute of Science and Technology and University College, Cardiff, and Ian Kel-sall, the CBI's director for

tion in all matters except cricket, where he carries an undying ot, where he carries an undying loyalty for the white rose. It is an acknowledgement that Wales is a good place in which to do business and that

Cardiff is growing as a financial centre. This is a very exciting city in which to be working and the Principality is contributing fully to that growth.'

It is impossible to compare
the Principality's asset base

with the other societies, since they do not publish separate statistics for their Welsh operations. The Principality certainly has the largest number of branches of any society in Wales though it is probably behind both the Abbey National and the Halifax in mortgage lending.

But in one important field it is well about of all its compati

well ahead of all its competi-tors. It has the prettiest girls betors. It has the prettiest girts behind counters. Everyone comments on it, says Mitchell shyly. They are more than pretty faces, though. Mitchell says they are the best salesforce a society

Outsider deal

Those who like to be in the know about what is going on are getting worked up about who will succed Malcolm TYhomas in one ofthe plum jobs. Thomas is coming up for retirement as chief executive of the Bank of Wales and the guessing-game over his successor is in full

Observer can offer a clue: the answer lies outside the Princi-Thomas, who has passed the normal retiring age, goes as soon as the new man moves in

(though he stays on the board in a non-executive capacity). And the Bank of Scotland, which through its 75 per cent share-The evening is rather more than just noting a major achievement by the society, diff-based bank, founded by the says John Mitchell, its Yorkshire-born chief executive who shire being Welsh by adopshire to be the bank should look outside its own por-

tals, which will dash the hopes of those who have been pushing for an in-house appointment. The new man will not come from Edinburgh. The odds are that he will come from one of the high street clearers or the like, and be in his late 40s. An ince, and be in his fate 40s. An Englishman to head a Welsh bank owned by the Scots. All should be revealed, as they say, after the next meeting of the bank's board on November 5.

Bottoms up

If Robert Ellis, of accountants
Touche Ross, has the footbaliers' anthem. Ere we go., 'Ere we
go,' engraved on his memo pad,
he can hardly be blamed. For
the past nine months he, with
his colleague, Stuart Lindsay,
partners in the Cardiff office,
have been administrators of
Newport County Football Club,
now bottom of the Football
League. Ellis, whose sport is
golf rather than soccer, was
called in in February in a desperate attempt to keep the club perate attempt to keep the club alive. Saddled with debts of over £500,000 and faced by an intractable Inland Revenue that wanted paying in full as a priority, Newport looked to be

on the way out.

Now, however, he is about to be relieved. The court has agreed that the administration order can be lifted on October 30. After that, the club's affairs are best in the director's hand. are back in the directors' hands.
'Our first task, when we moved in,' Ellis says, 'was to stop the day-to-day losses and we spent a lot of time going through the books. Newport had a good Lifeline scheme and a useful lottery and we organised a lot of things, such as dinner-

dances, to raise money.

This season we should see
the club in the black and most
of its debts repaid. I just hope the club starts to climb the ladder. It would be a pity to see it drop out of the Football League

after all the effort.'
Highlight of the stint was a visit to Everton, whose chairman, Philip Carter, also heads the Football League. 'What a difference. They have a com-

Observer

LONDON TO JAPAN. AGAIN AND AGAIN AND AGAIN

> AND AGAIN AND AGAIN

> > AND AGAIN **AND AGAIN**

AND AGAIN AND AGAIN.

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The matter might be of only local interest were it not for the involvement of 33 foreign banks, several of which are threatening to turn it into a test of Norway's international credit standing. Some harbons have all standing. Some bankers have already likened it to last year's tin

Chioni.

The issue at stake is whether the Norwegian Government has a duty to bail out KV. But the affair has become snarled in the politics of Norway's centreleft minority Labour Government. The manner in which the Coslo authorities have attempted to reorganise KV has also brought charges from foreign bankers that the company has been made into an aimost worthless shell before they have recovered their assets.

Kongsberg's troubles are deep-rooted. It has been in the core they have recovered their assets.

Kongsberg's troubles are deep-rooted. It has been in the core capital from the Government.

debt. It tried again but failed to red for eight of the last nine get more capital from the Government. Kongsberg's foreign bank creditors happily assumed their loans were guaranteed by the Norweglan Government.

This assumption was based on a number of points. The Norwes gian Government appointed Kongsberg's directors and approved its accounts. It has also made large injections of new capital to help the company meet its commitments to supply equipment both to Norway and NATO allies. The last time this happened was less than a year ago when KV received NKr200m to cover operating expenses while the Government assessed what it actually owed.

The Ministry of Industry also

The Ministry of Industry also approved KV's budgets and accounts. But above all, bankers assumed that the Kingdom of Norway would not allow its name to be tarnished by the failure of such a prominent, state-owned organisation to meet its debts. This was despite the fact that the Norwegian Govmeet its debts: This was despite
the fact that the Norwegian Government had never issued written guarantees or made legally
enforceable commitments.
Kongsberg itself is a joint stock
company with limited liability.
The situation has been complicated by the fact that Kongsberg, in collaboration with Toshibs of Japan, stands accused

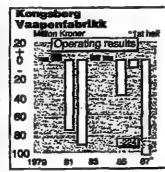
ANY DAY now. a major international banking row is likely to erupt over the Norwegian Governational Standing is

ernment's handling of the so-called Kongsberg affair, a saga of truly Nordic propor-

ready likened it to last year's tin crisis, when governments were accused of failing to honour their financial obligations. their financial obligations. The affair centres on Kongsberg Vaapenfabrikk (KV), the state-owned Norwegian defence contractor and jet engine manufacturer which came to the brink of collapse earlier this year-owing \$409m (F248), including \$240m to a group of foreign banks. These include the two UK merchant banks, Samuel Montagu (part of the Midland Group) and Kleinwort Benson; Banque Belge, Kansallis Osake Pankki, Creditanstalt, Sumitomo Trugt and even the Bank of Chipul. The issue at stake is whether of selling sensitive military engine division, the group of the same of selling sensitive military engine division, the group of group of group of the group of group

would have put an end to the Government's embarrassment over the Russian equipment sales. But the Ministry of Indus-

proceedings began in June, the Ministry of Industry arranged for the sale of Kongsberg's jet



In their anger, bankers describe the episode as a shameful reflection on Norway's NATO obligations

over the Russian equipment sales. But the Ministry of Industry recommended composition This was intended as a temposer recommended composition and a lawyer. Mr Jonas Erom NFT to Kongsberg, However, was appointed to head a committee to thrush out the ferms.

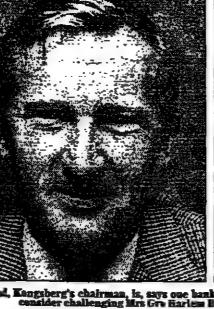
This was the first major setback for the foreign creditors because at this stage it became obvious that there would be no ball out. But after composition proceedings began in June, the Ministry of Industry arranged for the sale of Kongsberg's jet in geometric sale of Kongsberg's of the Storting to agree a further appropriation, as well as additional defence funds for the NFT purchase of KV's outstanding contracts. It is also unclear ing contracts. It is also unclear

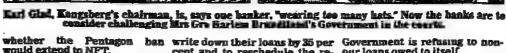
tor of Kongsberg, and has been sitting on both sides of the negotiating table at once.

The bankers' original hope that they would get back 60 or 70 per cent of their loans has now been sharply reduced. The latest offer is 40 per cent, a figure which hankers consider outrawhich bankers consider outra-

geous.

The composition committee says that it could be weeks before the banks have completed calculation of their claims and the valuation of remaining KV assets. In a final attempt to salvage more from Kongsberg last month the banks offered to





engine division, the group's largest loss maker, to a consortium consisting of three Norwegian companies and the US-based Pratt & Whitney, whilst keeping a one-third share for the state. Snecma, the French jet engine maker, also has a 10 per cent option. This sale netted NK730m; bankers suspect that KV went cheap.

Next, Norway set up a new state-owned company, Norwegian Defence Technology (Norsk Forsvarsteknologi or NFT) to which it transferred

Bankers now say that, however reluctantly, they will accept the composition agreement, since the only alternative is to seek kongsberg's bankrupicy. The composition committee last week duly approved the sale of the old KV defence division to the new NFT company. At the same time, the banks are preparing for the next stage of their strategy, in the course strategy - in the courts. The official announcement of

The official announcement of the 40 per cent settlement is due tomorrow, the day that Mr Glad has said that Kongsberg will run out of money completely. At that point bankers can be expected to issue a sharply worded statement, condemning the Norwegian Government's handling of the affair. Lawyers have already been engaged to study grounds for sueing the Government and other likely parties either through the Oslo courts or abroad. Once the composition is complete, KV itself will become a paper company with zero assets and zero debt. with zero assets and zero debt.

One of the many ironies of the affair is that Kongsberg's bank creditors include the Helsinkibased Nordic Investment Bank based Nordic Investment Bank (NIB), which is owned by the Scandinavian governments, including Norway, and whose president is Mr Jannik Lindback, himself a Norwegian. If the NIB has to write off its Kongsberg loans, not only will it mark the bank's first loan loss in its 12-year existence, it will also mean that the Norwegian in its 12-year existence, it will some transposed. We apologise for the error.

designate of NFT, the company which has taken over Kongsberg's defence business. In addition, he has just stepped down as deputy president of Aker Norcem, which is a member of the consortium which bought Kongsberg's jet engine division. "Mr Glad is wearing too many hats," says one banker.

However the main question that arises is whether the affair will leave a lasting stain on Norwill leave a lasting stain on Norway's financial reputation.
Since the Kongsberg affair at least two rating companies have lowered Norway's credit rating. One of them has cited the KV affair as the reason. The rela-

arrair as the reason. The rela-tionship between the Govern-ment and other subsidised com-panies which have international credit has begun to worry the banks.

Bankers see the episode as a shameful reflection on a modern industrialised country with obligations to Nato for the proper conduct of its defence busi-The bankers have to concede,

The bankers have to concede, however, that their assumption that lending to Kongsberg was as good as lending to the Kingdom of Norway was misplaced. There is no solid documentary evidence to support it - only precedents involving other state-owned concerns, and statements by Norwesian offistate-owned concerns, and statements by Norwegian offi-cials about the importance of the defence industry. Whether these stand up in court may well be the next test.

On this page in the issue of Octo-ber 16, photographs of Mr Noboru Takeshua and Mr Shintaro Abe

Lombard

18 of - 7 %

The fallacy of means testing

By Michael Prowse

IN A RECENT speech on the weifare state, Mr John Moore. Social Services Secretary in the Thatcher Government, attacked the "indiscriminate handing out of benefits". One of the Government's priorities, he suggested, should be to "focus help more sharply on people in greatest need". The use of innocuous words like "target" and "focus" should not mislead: Mr Moore is a means-tester of the old school. In his book, you should get no help from the state unless you are prepared to prove your poverty. of benefits". One of the Govern-

To be fair, in advocating stricter means-testing. Mr Moore is not really saying anything radi-cal. He is probably moving only slightly ahead of popular opinion. Means-testing is a concept that is very much in tune with the Thatcherite 1980s. If you fo-cus benefits more sharply, less people will get them. If less people get them, the social security budget will shrink if that happens, we can all have more tax cuts. If we have more tax cuts, we will all work harder. And if we work harder, we might one day be as rich as the West Ger-

The desirability of stricter means-testing (sorry, the sharper focusing of benefits) is thus as self-evident to a Thatcherite as self-evident to a Thatcherite
as one of Descartes' axioms.
The policy can even be sold as
egalitarian. Why, ask the true
believers, should the rich yuppie couple with kids qualify for
child benefit? Why should the Duke of Westminister be promised a state pension at the age of 65? If cash were not thrown away in this fashion, runs the argument, we could afford to do so much more for the really des-

But is the present indiscriminate handing out of benefits (to use Mr Moore's phrase) really so stupid? Are motherhood and age really silly criteria for spe-cial payments? The answer depends partly on one's view of so-ciety and human nature. It is

unifying role, the value of which is hard to quantify.

They help combat a "them and us" attitude: nobody feels the slightest shame in drawing child benefit or a state pension. Indeed, quite the contrary: they can be claimed with pride, almost as a badge of citizenship. It is important that they do not have to be argued for or justi-fied. They do not carry with them the label "disadvantaged". They do not give bureaucrats carte blanche to pry into your

In an age obsessed with "In-centives", it is perhaps worth stressing that universal benefits neatly sidestep the "poverty trap" pitfalls of means-testing. If a benefit is progressively with-drawn as your income rises, it will obviously tend to hamper your emergence from poverty. your emergence from poverty.
When Mr Moore urges more sharply focused benefits, he is thus simultaneously urging the creation of work disincentives. He wants the poor to clamber to prosperity under their own steam, yet he threatens progres-sively to penalise their efforts at self-betterment. Universal benefits are obvi-

Universal benefits are obviously desirable. The importantquestion is whether we can afford them. Clearly, we can: we have in the past and GNP, as Chancellor Lawson periodically reminds us, is rising rapidly. But quite apart from financial considerations, a benefits system with a strong non-discriminatory strand is perhaps something that we ought to want to thing that we ought to want to afford. One of the dangers of Thatcherism, which will be-come increasingly obvious as its focus shifts from economics to social policy, is its excessive emphasis on individualism. It is hardly an exaggeration to

It is hardly an exaggeration to say that people are now being taught to resent paying for anything from which they will not derive personal gain. If one has no children, it is Thatcherite to resent paying taxes to finance the education of other people's children. If one does not like museums, it is Thatcherite to resent financing other people's pleasure. If we had any real sense of community, we would not want to reduce the social security system to a cheap, hardly cynical to argue that the wider the availability of benefits, the greater the chance their real value will be maintained. More positively, universal benefits, like other non-discriminatory policies, can play a useful means-tested rump.

Wider share ownership

the busines. Such scepticism can harden if the deal for em-ployees is that if they work har-der/flexibly, they will keep their jobs and make the managers rich! How much better to be able to say: we will all work harder flexibly so that we all share the risks and the gains. Vendors and institutions increasingly recognite this factor.

cognise this factor. Two techniques solve the obvious acoblems. Speed and confidentiality are not problems if a special employee trust takes the employee-reserved equity at completion, without any prior communication to employees. The offer to employees is then made with any unsubscribed equity taken back by the investing institutions. The apparent low value of the equiavailable to employees can be expanded by including pref-erence shares in their offer. Provided the employees get more ordinary shares per preference share than the 'hard-headed' institutions get, it is not difficult to sell the offer to em-ployees. Experience to date suggests that employees actually do prefer some preference shares, and over-subscribe well balanced offers.

The prize is a workforce that is as committed as thed managers to making the buy-out a suc-cess. We lag behind US prac-tice, where the recent \$1.75bm Avis buy-out by an all-employ-ees ESOP leads the way. But if we too "try harder", we can catch up and maybe even teach the Americans a thing or two. Laurie Brennan 30-34 New Bridge Street EC4

A duty of

care From Judith Lyons Sir, - Are there any plans afoo

for the winding up of any li-censed dealers or stockbrokers in the week or two following the

Just before Christmas last year, four days after the British Gas flotation, the Department of Trade & Industry applied to Court on an ex parte petition to wind up Prior Harwin Securities. Prior Harwin was licensed by the DTI, and by FIMBRA, and was advertising heavily in the quality press to attract the line function.

Alternatively, if he were in ed postal vote is that a genuine local wellow. Here.

Letters to the Editor

From the Chief Executive,
New Bridge Street Consultants.
Sir. - Your supplement on buy-outs (October 14) referred to the wider share ownership reasons for including employees. But there are also more commercial reasons for the growth in the "management led employee buy-out".

It is easy to understand the scepticism of those employees for whom the managers have for so long been "them" to "us" on the shop-floor, when managere suddenly announce that they have also become the owners of the busines. Such scepticism its assets were frozen. There was no bint of fraud.

Did not the DTI owe a duty of care to these hundreds of peo-ple, enticed by the massive ad-vertising of the "Sid" campaign not only to buy but also to make a quick and easy profit, just like high value city investors? The company had been investigated since August 1986, yet the DTI states that it acted as soon as if had sufficient evidence. Is it not more likely that it petitioned in panic after accusations of delay in the winding up of City Investment Centres (share shops) where there was no money left at all for the many small ordinary investor creditors, and in Financial Management Services where there was also no

money left. The message is clear: either have an effective licensing system with concurrent compensa-tion, or don't license dealers. There is clearly a need for a secure way of trading in high vol-ume low value share deals.

The Financial Services Act compensation provisions were not and are not yet in force. A parallel would be the licensing of car drivers without computsory insurance. Judith Lyons, 3a Burton Court

Nightmare with a PC

From the Head of Export Ser-

London Chamber of Commerce Sir, - Observer's journalist friend (Men and Matters, October 13) ran into his Customs nightmare taking his PC into Italy primarily because he clearly had no Customs docu-mentation at all. To ease the bureaucratic agony he experienced he ought to have carried a Community T form, to com-plete fairly simple export and import entries in Germany and Italy (European Community), with the additional benefit that Switzerland (EFTA) accepts the T as a transit document. From January 1 next, the new Customs' form SAD (single administrative document, although the French are already calling it let

fact entering the PC only tempo-rarily into Italy and intended to return it later to its starting point, his real 'easy passage' so-lution would have been the ATA carnet. This remarkable no-fuss document (provided by this and other major Chambers this and other major Chambers of Commerce) is a set of tear-off vouchers taken by Customs at each in and out stage, including transits. It is widely known as passport for goods and is accepted by Customs in 46 countries. They include the Community, although for travel within the EC alone a special Community carnet is also available from Customs.

from Customs.

My guess is that Observer's friend was in any case caught up in a situation that will have had something to do with increasing Customs sensitivities, in many countries, over travellers carrying PCs. These sensitivities undoubtedly arise from the company of the carrying from the company of the carrying from Customs the agreement of the 15 nation coordinating committee on ex-port controls (COCOM) - NATO plus Japan - to limit movement

pius Japan - to inmit movement of high-tech and other items in-to Warsaw Pact countries. Some computers, including the hum-ble PC, are included in the con-trol list. All this means that bona fide business travellers carrying PCs, who were previously able to take them through Customs as personal effects, now find they face demands for two types of document: an export licence, to show approval within the restriction controls; and a temporary admission car-net (or face the burden of full Customs entry, bonds and re-covery at each point). Whether an export licence is needed or not can only be determined by the British traveller by contact

with the DTI's Export Licencing Branch - obviously before he sets out! The moral for Observer's friend, and other equipment-carrying travellers, is that they must assume they will need some for of documentation, alas, but that some forms are

69 Cannon Street EC4

Engineering

From the Charges, George Emmott (Pausons). Sir, - If your Labour corre-spondent Mr Charles Leadbeaspondent Mr Charles Leadnester is thought to have some influence amongst industrialists, I suggest that his article of October 14 could pre-empt the postal ballot of the 5,000 members of al ballot of the 5,000 members of the Engineering Employers the Engineering Employers the Engineering Employers Federation to determine wheth-

feeling of all members should be sought, rather than a count of votes of those who attend re-I would suggest that many for-

proposals as fair and reasonable, and an opportunity to advance further the objectives of both the employers and employees to their mutual benefit and company's prosperity.

Mr Leadbeater refers to employers such as Ferranti, Rolls-

Royce, British Aerospace and Northern Engineering Industry as large blocks of votes, and in the following paragraph can be considered to infer that they considered to infer that they will give the proposals a lake-warm reception. It would be a pity if your readers were influenced by Mr Leadbeater's untimely remarks.

FV Mills

Wadsworth Mill, Ovenhope, Keighley, W Yorks.

Not the old rigid snake

From Mr D Prog MEP Sir, - Professor Presnell (Sep tember 30) in his reply to my let-ter on UK entry into the EMS forgets two crucial points.

The exchange-rate mechanism of the current EMS is not the old, rigid "snake". On the contrary, one of its main advantages is the ease with which, when long-term influences sort themselves out from short-term and speculative pressures, it fa-cilitates sensible changes in the exchange rate. The days of slack exchange rate. The days of stack control of Britain's money supply, public spending, inflation rate and the balance of payments are over. We now have a government that is in control of the economy and has, particu-larly of late, shown itself ready to take in good time the necessary internal measures to keep steribus steady. Now that the Chancellor ap-pears convinced of the ill ef-

fects on our foreign trade of a wildly fluctuating currency there is no more reason why we should be subject to stop go and deflationary pressures than any of the other member states who find the EMS just right for them. Professor Presnell's doctrine is the doctrine of despair, based on the assumption that we are incorrigible. Mrs Thatcher's government has shown that, on the contrary, our bad old eco-nomic habits can be corrected.

I do not wave aside the possi ble consequences of entry into the EMS's exchange rate mech anism, as Professor Presnell al-leges. I simply believe that they are nothing like as frightening as he imagines, and that we are

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actually know about contract hire. Because the real facts speak for themselves. Which is why so many thriving companies have

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FINANCIAL TIMES

Monday October 19 1987

The closer you look at: Provincial and Suburban Offices the more you see... 01-499 8626 St Quintin

campaign to ensure that the en-tire strategy of unlocking state control of that economy does

control of that economy does not founder on the fact that less than two per cent of the population currently owns shares. And the company's virtual monopoly of oil refining, although not distribution, gives it more of the investment profile of a BT.

The oil business, which dominates over gas and petro-chemicals, is largely domestic (aside from Libya) and concentrated downstream. The closest comparison is probably with Petroparison is probably with Petroparison is probably with Petroparison of Sch5,000 OEMV, it looks cheap on a prospective multiple of about 10. That, however, involves an optimistic journey, through the accounting conventions of the German-speaking world Last year OEMV report-

tions of the German-speaking world. Last year OEMV reported operating profit of Schi.4bn and 'net profit' (dividends) of 300m. This year the operating profit is expected to be slightly lower but, thanks to the lack of inventory write-off, earnings in the UK sense could be as high as Sch900m. The shares will also be trading at a chunky discount to asset value even excluding hidden reserves. The Government should, therefore, manage to price the issue at-

manage to price the issue attractively and prepare the ground for more difficult issues to come without opening itself to attack from the left.

As OEMV is already one of the best-run state enterprises in Austria there will be little scope for rationalisation, and,

scope for rationalisation, and, in any case, only 25 per cent of the company is being floated. However, the state holding company OIAG has been greedy for dividends in recent years to prop up the duds in its portfolio. OEMV's extra independence may thus allow it to retain more earnings to satisfy a desire to internationalise and grow by acquisition into a powerful niche business.

Despite the stagnant condi-

erful niche business.

Despite the stagnant condition of the Austrian market since 1985 the last small privatisation was seven times oversubscribed and went to an immediate 10 per cent premium (from which, admittedly, it has scarcely budged in eloquent testimony to Austrians' reluctance to relinquish what they hold). The pity is that the 40 per cent targeted for foreign markets is likely to be clawed back to 20 per cent thanks to that

THE LEX COLUMN

Taxing time for

pension funds

Pension Fund

Turnover (%)

290 UK Bonds 180

1981 84 83 84 85 86

boom questions began to be asked. Similarly, the exemption for
financial futures (which does
not extend to all options) is
based on the assumption that
they are being used as hedges,
not as trading instruments. The
resolve of the tax authorities to
take their cut is illustrated by
the fact that the Fisons pension
fund is due, next month, before
the special commissioner over a
capital gains tax claim relating
to some financial turnes transactions which have subsequentby been made tax exempt by the
1964 Finance Act.

Those who believe a constant
churning of share stakes is one
of the causes of short-termism
will be glad to know that the
Revenue's muscle-flexing does
seem to be changing behaviour.
The funds do not have to forego
their general exempt status if

The funds do not have to forego their general exempt status if caught on the wrong side of the investment/trading line, but they are liable to large tax bills for the deals in question. One major fund is reported to have accepted a £20m tax bill for trading activities with little argument, but many more are presumably erring on the side of

gument, but many more are pre-sumably erring on the side of caution, particularly as trustees are technically responsible in person for any breach of their investment powers. For the time being the uncertainty is creating, for the Government, a happy combination of disincen-tive to short-term trading, ero-sion of pure fiscal privilege and even a bit of extra revenue. But a clarification of the position would surely be in everyone's interest.

standards for several months and the dramatic selloff of the

high levels. The events of the last two weeks will have sorely tested their confidence.

come from underwriting (1971) and financial futures (1964). It

that the Revenue first started aniffing around. Underwriting

Pension funds

Greens fail to shake ruling Swiss coalition

Paul Betts in Paris looks at the scars and victor of the battle

Old hand is new broom at Unesco

BY WILLIAM DULLFORCE IN GENEVA

groups made gains in the Swiss federal elections at the week-end, but failed to shake the control exercised since 1959 by the governing four party coalition. Swiss politics will continue to be stable and conservative.

After results from 18 of the 23 cantons, covering 129 of the 200 seats in the National Council had been declared last night. the Swiss ecological party, which had placed three memwhich had placed three mem-bers in the outgoing legislative, had won only two new seats. A green-red alliance linking envi-ronmentalists and left-wing

Anglo-Irish courts

reform deal denied

lessch (prime minister), who is said to have told a private conference last month that Mrs short of the three-judge bench for which the republic has pressed in the past.

The issue is likely to be at the centre of a crucial meeting of the intergovernmental Anglorus in the Hillsborough Agreement on London-Dublin co-operation.

Britain has always denied the pected to take place on Wednesserickers.

existence of any such under-standing, explicit or tacit.

standing, explicit or tacit.

Mr Charles Haughey, the Taoiseach, faces strong criticism
from the opposition, the Catholic Church and members of his
own party over a new treaty
with Britain on the extradition had been convinced that substantial reform in this area "was
North - a treaty which Mrs
Thatcher sees as integral to the
Hillsborough process.

Hillsborough process.

An act giving effect to the treaty was delayed to put pressure on the British Government to amend the Diplock courts the republic has argued that acceptance of the treaty would be easier if the Irish people could have more confidence in the le-

MR JAMES BAKER, the US among industrial countries was

"On the other hand we will not

sit back in this country and watch surplus countries jack up their interest rates and squeeze

growth worldwide on the expec-tation that the US somehow will follow by raising its interest rates," he added.

He discounted newspaper re

is ready to let the dollar fall it

est rates and puts upward pres-sure on US interest rates.

Baker gives pledge on

policy co-operation

Treasury Secretary, yesterday still operative. began to tone down the rhetoric On the other

at West Germany.

Mr Baker, who last week accused West Germany of breaching the spirit of the economic

policy co-operation process among the leading industrial

countries, carefully avoided

levelling new charges in an American television interview.

He said: We would never change policy in this country without first making sure, at least, that we notified and dis-

cussed it with our trading part-

ners." The co-operation accord

BY OUR DUBLIN CORRESPONDENT AND TOM LYNCH

MR PETER BARRY, the former Irish Foreign Affairs Minister, said at the weekend that the government in which he served did not secure a specific commitment that Britain would remitment that Britain would remote form the Dipiock courts in Northern Ireland, in which a judge sitting alone and without a jury, tries terrorist suspects. His remarks conflict with the reported view of Dr Garrett Fitzgerald, the former Taolseach (prime minister), who is said to have told a private conficulation of the three-judge bench former last month that Mrs.

BY FINANCIAL THES REPORTER

BRITAIN'S insurance companies are bracing themselves for an unprecendented level of claims this week after the feak storms which swept the south of England last Friday.

It will be some time before the full financial damage can be assessed but the Guardian Royal Exchange, for example, expects hefty claims because the damage was done in the south of England last Friday.

However, Mr Haughey has been careful not to make specific demands in public, and it is thought that his government might accept reform falling short of the three-judge bench for the Dail vote of the sure bracing themselves for an unprecendented level of claims this week after the feak storms which swept the south of England last Friday.

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It will be some time storms which swept the south of England last Friday.

It will be some time before the full financial damage can be assessed but the

advance had been less forceful than expected. The Environ-mentalists had failed in their attack on the Swiss People's Party which is the smallest of the four ruling parties.

The People's Party has in-

creased its standing by three seats. Losses have been sustained by the three larger coali-tion parties, the Radical Demo-crats, minus 3), the Socialists (minus 4) and the Christian Democrats (minus 2). The ero-

environmentalist groups has also captured two gains in the Swiss ctions at the week-led to shake the conded since 1959 by the constitutions at the declare, the Green wave of the life seats held by the four particles in the outgoing council speared to be only marginal.

A mayorisk Automobile Party.

A maverick Automobile Party. recently formed to represent car owners and to counter the influence of the Environmentalists on road policy, has succeeded in placing a representa-tive on the council from the canton of Zurich.

In Zurich the ruling coalition suffered a minor upset in the election to the 46-member upper chamber, the Council of States, when Ms Monika Weber, an independent and a leader of lise the expected support.

feated the People's Party candi-

The four parties and their Liberal allies have previously dominated the upper chamber. In Geneva the 4.8per cent increase in the vote for the Greens shown in early results appeared to have been at the expense of the extreme rightwing Vigilant Group which had campaigned on an anti-foreign. campaigned on an anti-foreign-er ticket.

Almost all cantons reported lower turnouts than in the last elections of 1983, indicating that the Greens had falled to mobi-

wiped out almost half of the market's rise over the last year, as purely technical. It is much more extreme than the sort of corrections the market had been preparing for, and cannot be ignored easily by the London market. If the five-year-old US bull market is to remain intact, much will depend on the continued confidence of foreign investors and US corporations, whose appetite for US equities has pushed traditional valuation benchmarks to historically high levels. The events of the Gorbachev FERENICO MAYON ZARACO ZA, a well-groomed 53-year-old Catalan blochemist, is no stranger to the troubled UN education, culture and scientific organisation. Mr Hayor immediately made it clearly yesterday that be came a member of the agency's advisory committee for 'scientific research and human needs. Between 1978-81 he was deputy director of Unesco and between 1983-84 was a special advisory of the symmetrie of the reganisation, as well as his distinguished scientific and political reactoril hattle. Mr Mayor's experience of the organisation, as well as his distinguished scientific and political recent prompted more than 100 personalities from all over the world and 11 Nobel prize winners to endown the first and fourth halloners to endown the first and fourth halloners to be the first and fourth halloners to endown the first urges new approach to food supply

to suffer enermons leases," he said.

And he told the Communist Party Central Committee on food processing that "retooling the food industry is new the most urgent objective".

He Nikolai Ryzhkov, the Prime Minister, also expressed concern that a heavily subsidized increase in food output of farms since 1985 was not reaching the shope.

"New technologies would make it possible to boost output 20 to 30 per cent from the same amount of initial products.

The statistics for the first

Caspian. Mr Gholam Reza Aqa-Zadeb, the Iranian Oil Minister, and

because Iraqi air attacks in the Gulf are constricting Tehran's trade routes to the south.

By Patrick Cookburn in Moscow

MR MIKHAIL Gorbachev, the Soviet leader, said at the weekend that providing the cansumer with an adequate food
supply could not be achieved
withant improved storage,
transport and processing of
farm products.

Although output of meat,
milk and eggs expanded fast in
the first nine months of the
year, according to figures published yesterday, the benefits
frequently did not reach consumers.

pinses, out the whiter battle against fiscal neutrality seems to be won. The Inland Revenue, though, is now developing into a more subtle enemy of pension fund freedom.

Those freedoms have always been relative. The 1970 Act exempts funds from income tax and capital gains tax on "investments", but they enjoy no general exemption from tax on "trading profits. A precise definition of these two terms is, unfortunately, not provided by law. But understandably enough, the Revenue bas come to regard some of the increasingly rapid turnover in securities and the growing use of futures and options as potentially outside the spirit of the Act. In rising markets, fund managers who buy in

spirit of the Act. In rising mar-kets, fund managers who buy in the morning and sell in the af-ternoon have become more common than they used to be. Other aspects of pension fund practice, such as stock lending, have always been taxed. But funds do possess two further special tax exemptions: from in-come from underwriting (1971)

acis.

"The processing industries of the agri-industrial complex are lagging behind in their development from the rates of growth of agricultural production."

the statistics for the first mine months of this year above that ment and poultry output was up 9 per cent on the same period last year at 16.1m tennes, while milk and eggs production each rece by 3 per

• Iran and the Soviet Union have signed an agreement on economic co-operation in the Caspian Sea where the borders of the two countries meet.

Under the agreement Iran will supply 5m tonnes of crude eil to Mescow each year, of which 2m tonnes of refined products will be shipped back to Iran by Soviet tankers in the Caspian.

Mr Konstantin Katushey, chairman of the Soviet State Committee for Foreign Economic Relations, also discussed the question of the possible transit of Iranian oil

Commonwealth aid to the African front-line and neighbouring at least five elements of the future programme of action. Mrs Thatcher specifically refused to can front-line and neighbouring states, particularly to Mozambique, for which a special techni-cal assistance fund is to be set up. The assistance efforts will be

Commonwealth leaders

attacked by Thatcher

UK insurers facing

heavy storm claims

forecasters had been no less successful than their Continen-

successful than their Continen-tal counterparts in predicting the freak conditions.

The information from all our computer models indicated very strong winds on the conti-nental side of the depression, in France and the Low Countries, which was not in conflict with

which was not in conflict with what the Continental forecasters were saying. Where we didn't get it right was in predicting the winds over the UK."

One Dutch forecaster, Mr Har-ry Otten, warned listeners on his morning radio bulletin on Wednesday against travelling to Britain. But Dr Houghton stressed that continental fore-

casts related to sea conditions-which the Met Office had also warned would be rough - and not to the impact of the winds

Scalink the cross-Channel fer-ry operator said last night that it would wait until later this week before attempting to re-float its vessel Hengist, whose

hull suffered a 10 ft gash after it ran aground at Folkestone.

ran aground at Folkesione.

The British Army joined efforts at the weekend to help restore the electricity supply; but more than 300,000 homes were still without electricity last night and the Electricity Council mid it would take a few more days before pages were fally as

days before power was fully re-atored.

on Britain.

BY FINANCIAL TIMES REPORTERS

and where people are relatively wealthy.

The Home Office emphasised yesterday that Mr Douglas Hurd, the Home Secretary, had not rejected the possibility of government help to meet the cost of the damage. However, it was too early to say where responsibilities would rest.

The Meteorological Office, meanwhile, is facing its biggest crisis since it was formed in 1855 over its failure to give adequate warning of the worst weather in modern times.

It has come under scrutiny

It has come under scrutiny from MPs, ministers and the public and has already ordered its own internal investigation

into what went wrong following the storm that left more than 13 people dead and caused mil-lions of pounds worth of dam-

Dr John Houghton, director-general of the Met Office, in-sisted yesterday that British

The assistance efforts will be concentrated, as they already are, on key sectors such as transport and communications, including their "physical protection" against sabotage attempts by South Africa.

Printit will be given to the

ports "that attribute comments from unidentified senior Ad-Priority will be given to the development of the Limpopo railway, which runs from the Mozambiquan port of Maputo to Zimbahwe. ministration offiicals. These have suggested that Washington West Germany raises its inter-Zimbabwe. On sanctions, On sanctions, however, Melan Britain dissociated itself from tions.

endorse the statement adopted by the other members that 'eco-nomic and other sanctions had had a significant effect on South Africa and that their wider and more intensified application must remain an essential part of the international communi-ty's response to spartheid."

The Commonwealth leaders also unanimously adopted a statement on Fiji intended to persuade its military leader-ship to return to a political sys-tem which would morantee the democratic rights of both the Melanesian and Indian popula-

World⊴Weather :

Peru's pin-stripe freedom fighter

Continued from Page 1

week a bomb was anonymously planted just outside the Banco Mercantil. It was deactivated by the police's experienced bomb squad, but it lent another guer-rilla war touch to the banker's

In beeping with his new role of resistance chief, Mr Pardo communicates with other top bankers by walkie-talkie. His code name is Gadaffi, because I'm the crazy one. Mr Dionisio those with the President since Romero, one of Peru's wealthithe nationalisation was an-

Banco de Credito, has the code name 'The Beggar'. Mr Romero has had the closest relationship to President Garcia. Last November, at Peru's largest annual business conference, the president arrived in Mr Romero's private aircraft with the banker as pilot. Mr Romero is said to be the

only banker who was told about the nationalisation move.
It is also widely understood that Mr Romero is the only banker to have had conversaiced. Mr Romero's move

last week to sell the majority of the Banco de Credito's shares to its workers, considered a coup as workers, considered a coup against the expropriation, was said to have been privately giv-en the nod by the president himself.

Some comme even considered the Banco de Credito's move to worker control the crowning achievement so far of President Garcia's eampaign to wrest economic control from the country's four most powerful financial groups. The four groups held domi-nant positions in Peru's top pri-vate banks

and the dramatic selloff of the last two weeks may be the sort of long overdue correction necessary before the market can move higher. However, it would be foolhardy to dismiss the 16 per cent fall in the S & P 500 from its August peak, which has wiped out almost half of the market's rise over the last year.

most urgent objec

The tax exempt status of pension funds, handed down by the 1970 Finance Act, has been defended by the pensions professionals with remarkable tenacity. Something has been conceded on the taxation of surpluses, but the wider battle against fiscal neutrality seems to be won. The Inland Revenue.

uniers technical backward-ness in the food industry was eliminated "we will continue to suffer enermous lesses," he

production each rece by 3 per cent.

Other sectors of the economy showed mixed results: oil, gas and coal production were ahead of target but expital construction is still lagging behind the ambitious plans to raise investment rapidly. Industrial output was up by 3.6 per cent in the first three-quarters of the year and labour productivity by 2.7 per cent over the same period.

Mr Gorbachev and the Politiburo are particularly eager to increase the quantity of food in the shops because they are also planning to raise the prices of laste products.

In a speech earlier this month, Mr Gorbachev gave full support to an increase in the price of food, a policy which appears to have created strong resentment among ordinary Soviets.

across the USSE's territory."

Iran is eager to improve economic relations with Moscow

to 20 per cent thanks to that campaign to attract some of Austria's Sch1,000bn of household savings. But there could be more coming next year, and in the meantime how about a few hydro-electric power stations? company that has been prepar-ing to sell a chunk of its equity to the public over the past few weeks. But OEMV - the Austrian commissions are not obviously investments, and when they started flowing in large quantistarted flowing in large quanti-ties at the peak of the takeover borrowing more from the "Sid" Away out for companies up against it through lack of space: If cramped working conditions are driving you and your staff up the wall, the Commission for the New Towns can help. Our organisation has an enormous range of property available in no less than 13 New Towns up and down the country; Basildon, Bracknell, Central Lancashire, Corby, Crawley, Harlow, Hatfield, Hemel Hempstead, Northampton, Redditch, Skelmersdale, Stevenage, and Welwyn Garden City. Just fill in the coupon or alternatively dial 100 and ask for Freefone CNT Property Centre. Either way we'll find you the space Please send me information on the types of CNT property and for the areas I have indicated. (PLEASE TICE) North Midlands South Ceneral Informati Ind. Units Warehousing Land Specify COMPANY ADDRESS TELEPHONE Sead to: CNT Property Centre, PO Box 4TY, London WIA 4TY or Diel 100 and ask for Freefone CNT Property Centre. लाल WE'VE GOT THE PROPERTY WE'LL GET YOU MOVING

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SECTION II - COMPANIES AND MARKETS

FINANCIALTIMES

Monday October 19 1987



INTERNATIONAL BONDS

Worried dollar dealers find relief at end of a tempestuous week

to reach the City, or finding almost floor to the market? way for further interest ripon once else had when they got there, must have heaved sighs of relief at the windfall opportunity to in Nomura Research Institute's Reserve allows the dollar Reserve allows the dollar reserves the market slows.

Dealing had pivoted around last
Wednesday's release of the US Angust trade deficit figure – seen as
gust trade deficit figure – seen as
the eight-month-old accord among
leading industrial nations to stabilise the dollar comes under increasing strain. around \$1bn higher than expectations at \$15.7bm

weekly global bond review. This

The reeson is that failure to curb As a result, the US Treasury bond cit has led to a growing belief that market went into a tailspin which the dollar must fall further. Mean-pushed the yield on the benchmark while, West Germany and Japan long bond up above 10.30 per cent at have appeared increasingly reluc-

THE EXTREMELY stormy weather one point, and bond markets in oth-in London last Friday seemed an er currencies could not help but fol-of their own monatary expansion.

entirely fitting end to a tempestuous week in the international debt
markets, dominated by a new crisis
of confidence in the current international exchange rate system.

Eurobond dealers either unable
to reach the City, or finding almost

If, on the other hand, the Federal is now less clear than ever at what level the other central banks will be prepared to stop it falling.

"A small fall would do little to help the trade deficit while a larger fall would confirm the markets' worst fears about US inflation." Either way, without substantial for-eign exchange intervention, inter-est rates would be pressed upwards, according to the NRI view.

Eurodollar Bond

Meanwhile, the lack of supply from the primary market continued to make secondary market trading ever more hazardous. Dealers are finding it increasingly hard to hedge long positions with correing short positions, as new hends dry up and investors, reluc-tant to take their losses, hold back

Only short-dated bonds are considered appropriate in the primary market now, and these, indeed, have been getting progressively shorter: last week's issues for Merrill Lynch and Toronto Dominian that was attracting any retail inter-Bank showed that two-year lives

cash managers who are attracted by a yield pick-up of around 2 per cent over money market instru-

A longer-dated bond can now be instified only for the very best-liked issuers – the rationale for launching a Ci100m bond for Nippon Telegraph and Telephone last week.

On the face of it, this bond had everything going for it it was for the right borrower, it was launched at a yield spread widely acclaimed as "generous"; and it was denomi-nated in almost the only currency

about five on normal levels so far on the other hand, can be sold to might have attracted more institu- was also depressed by these factors, tional interest had it been larger.

The D-Mark bond market had pointing to the potential benefits twin sources of anxiety last week: that might accrue from its not only could it not escape the trend to higher worldwide interest. These arguments seemed that might accrue from its exemp These arguments seemed to be

rates, but it also had to grapple with reflected in prices towards the end the West German Government's of the week. The yield differential protracted mixed signals over its had changed from supranational decision to reimpose withholding Eurobonds yielding about 25 basis By the end of the week, it was clear that the 10 per cent withholding tax would apply the control of the week in the control of the

ing tax would apply only to bonds
issued by German borrowers - retip borrowers of this trend did not so norrowers of this trend did not yet seem to have come through. A long awaited bond for China that it would apply to bonds issued by borrowers' offshore financing vehicles.

flying around last week, both the Eurobond primary and secondary markets shaped into inactivity. In deed, one syndicate manager remarked that turnover on his new is market aftern of the secondary markets always and three-year bonds.

Admittedly, its yield margin of a secondary around 67 basis points over Canadian around 67 basis points over C

COMMERCIAL PAPER

Issuers in search of reassurance and committed players

1987

Yield

10%

THE EUROMARKETS have lived its time-honoured insistence on through bear market cycles before, holding sole dealerships in US community committed.

There is no reason to think that mercial paper was another reflection. they will not live through this one

prominently last week by Salomon drawal seems likely to have little effect on the market except for these earlier this year by Lloyds Bank, few, unlucky companies which had must also be under consideration in Salomon as sole dealer.

many other houses. . Salomon pulled out of short-tarm instruments as well as US munici- in a rather more delicate state. The pal bonds. The rationale for and im-pact of withdrawing from short-term markets are mainly in the US, where commercial banks are finally benefit from uncertainty about repertoire and that they can include pact of withdrawing from short-term markets are mainly in the US, where commercial banks are finally

being allowed to move into commercial paper among them cial paper.

Coldman Sachs' decision to drop provide a reliable source of funding costs.

they will not live through this one too. But the pressures of overcrowding and of weakening markets are forcing some wrenching shifts of strategy.

The US commercial paper market adozen dealers increasingly exert upon it. New issuers will generately want to be sure that they have a couple of these apparently committed players among their dealers. Another effect is to add fuel to

Another effect is to add fuel to the probably futile debate about the probably futile debate about the probably futile debate about the probable of the probab whether commercial or investment banks are best suited to handle



Investment banks retort that commercial banks do not understand securities markets, have an uncertain commitment to them and lack the distribution bases which around the world. This is all the many investment banks have built. The debate obviously has poi-

being challenged. But in the Eurocommercial paper market, the fact is that the top 10 dealers are di-vided equally between investment banks and subsidiaries of commercial banks. Neither side is getting the upper hand over the other, nor

What is much more imports for any kind of player, is the profitability of being in a market, and any other benefits which might ac-

bank to challenge the concept of providing all possible securities market services to all customers more dramatic since - with its headlong growth in London and To-

limit the damage to its relation-ships with existing clients whose confidence in Salomon as an invest-ment bank could be undermined.

rate treasurers towards dealing with a broader range of banks - us-

bank that pulls out more than a bank which makes claims about distributive skills that it cannot live that, exterm Euromarkets was already

The costs of maintaining this foot But there is a trend among corpo- in the door are difficult to isolate from other costs, but quite high. Because of the need for daily contact ing each in the market where it is recognised as strong - instead of employing a few key relationship banks.

Issuers are likely to appreciate a least that will be a startling profit.

> Then there is the oft-noted catch that, even if a dealership does lead to other business from the borrownew business is equally likely to be

grancy in the US, where the invest-ment banks' long-held preserve is greatest champions of the idea. One of the arguments advanced on the fact that its middle-rankgreatest champions of the idea.

The immediate need will be to limit the damage to its relationabins with existing clients whose to the relationabins with existing clients whose to the corporate treasurer and thus put you in a client profits and that it was pointprime position to win other busi- less to go after loss-making man-

> ue in Eurocommercial paper, in which it is not one of the top playwhich it is keeping its presence as part of a strategy to bring higher value-added products to a smaller range of customers. Commercial paper can be combined with foreign such products.

Over the next few months, this up to. To some people, Selomon's to other business from the borrow"relationship" value of dealership—
lack of commitment to the shorter, the competition is such that the



International Bank for Reconstruction and Development

Can.\$150,000,000

11% Notes of 1987 due October 14, 1994

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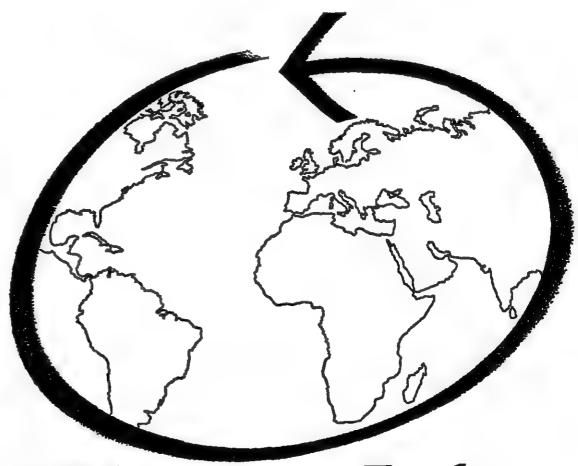
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Borrowing figures lift long contract

THE COMBINATION of fierce market early next month but storms which virtually closed down the City on Friday and extent by the first call on BP and treme volatility on Wall Street after August's US trade figures made for a confusing end to last week for UK government bonds. There was minimal activity in the gilt-edged market on Friday as disrupted screens and tele-phone lines made trading almost impossible. The long gilt futures contract, however, was traded and rose in reaction to September's excellent public sector borrowing requirement

The future rose from about 112 24/32 before the announce ment to around 113/2. There is no doubt news on government borrowing is getting better and better and talk of a balanced Budget this year seems by no means over-optimistic.

A simple comparison of the cumulative PSBR, excluding privatisation receipts, this year and last (all things being equal) and tast (all things being equal) suggests this year's borrowing requirement could be below £2bn. Up to September last year, the cumulative PSBR, exyear, the cumminative risks, carprivatisation, was £6.9bn but the PSBR for the full year turned out at only £3.4bn. Subtract the same £3.5bn from this year's cumulative PSBR, ex-privatisation, and you reach the £1.9bn figure

It is quite clear then that, whereas privatisation receipts undershot the Government's target last year, this year's revenues will exceed £5bn. This could reduce the PSBR to perhaps only £1bn without taking fulls into account faster than fully into account faster than expected economic growth this year, very buoyant corporate profits and a much firmer average oil price than the one factored into the Budget arithme-

Speculation that the corpo-rate tax paying season, which gets under way in the new year, will provide the Treasury with even more bumper receipts than envisaged at Budget time was fuelled by Thursday's an-nouncement that the Bank of England will expand its weekly offering of Treasury bills. offering of Treasury bills.

The key motivation behind this decision, it seems, is to preempt money market short-ages in the new year as corporation tax starts rolling in, rather than concern about surplus liquidity in Jate October and the

quidity in late October and the first half of November. A large gilt-edged redemption of about £1.95bn is likely to in-ject some cash into the money

the second call on the auction

That is all good news for gilts and should this week help insu-late the market from any fur-ther transatiantic shocks. The behaviour of US markets last Friday was rather difficult to interpret. Bonds recovered, quite rationally, as mildly encouraging producer prices figures were published and as all the published and as a the comments emerging from US officials suggested a desire to hold the discount rate down. to hold the discount rate down.
It was not easy to see why this,
coupled with signs of increasing
strain between the US and West
Germany on interest rate policy, should have helped the dol-

As it was, the much-expected cross-over between long-dated gilt and long US Treasury bond yields did not happen. The US long bond recovered on Friday to a yield of 10.20 per cent from 10.22 per cent at Thursday's close while the rise on the gilt futures contract on Friday only brought long yields down to just helps 10.3 per cent

below 10.3 per cent.
British yields should fall below US ones on economic fun-damentals - you just have to look at the size of the US budget deficit and Britain's govern-ment finances - but there is still a natural psychological resistance to the cross-over.

Resistance to any substantial rally in gilts may be fortified as the market tunes up for this week's money supply and bal-ance of payments figures. The consensus forecast for

bank lending is for an increase of around £2%bn while predic-tions for the current account are for a shortfall in September of around £350m. Neither of are for a shortfall in September of around £250m. Neither of these figures would be nearly as bad as some the markets have had to brave this year but they would, nevertheless, not be that encouraging.

The nuge dispartly of contexts In a nuge dispartly of contexts In a nuge dispartly of contexts. In a nuge dispartly of contexts In a nuge dispartly of the nuge in a nuge dispartly of the nuge in a nuge dispartly of the nuge in a n

Janet Bush the central bank was rethinking its "wrong-headed" theory, as Mr

US MONEY AND CREDIT

Trade data set off 'massacre'

WALL STREETS ultra sensitiv-ity to US trade figures wreaked havoc on its credit markets last week and triggered a spectacu-lar sell off in the stock market. For both stocks and bonds, the week was instantly dubbed the October Massacre.
The \$15.7bn deficit was only a

The \$15.7bn deficit was only a bit worse than expected but it revived all the old fears about a tambling dollar which in turn could bring foreign investors out on a buying strike against dollar denominated securities.

These factors could only constitute to extend the tamble of the country of the country

These factors could only contribute to other negative influences, the market believed, and push up interest rates at home. It rapidly became a self-fulfilling prophecy as the Treasury's benchmark 8.75 per cent 30-year bond dropped more than two points, putting its yield above 10 per cent for the first time in almost two years. Chemical Bank lifted its prime rate by half a point to 9.75 per cent but as yet no other money centre banks have followed suit.

The bear bond market, triggered in mid-March by a falling dollar, has driven the long bond yield up by 2.60 percentage points, or 35 per cent. Investors and dealers had little time for history last week as prices spi-

history last week as prices spi-ralled down, but for the record railed down, but for the record the routs June to December 1980, and July 1978 to April 1979, were worse, according to Salomon Brothers. Yields rose 38.7 per cent and 39.3 per cent respectively.

But history is important for the context of the latest debacle. The last time yields pushed up through the 10 per cent mark

tie. The last time yields pushed up through the 10 per cent mark was 1979. Then monetary policy was extremely tight with a diacount rate of 12 per cent and inflation rampant at almost 13 per cent. Today the discount rate is 6 per cent and inflation about 4

or 5 per cent. The huge disparity of contexts Throughout everything, sterling has held as steady as a rock and it is difficult to see the Chancellor acceding to a rise in base rates while sterling is clearly bumping up against its official ceiling.

That alone should insulate gilts from the negative impact on other bond markets of rising world interest rates and impending squalls between Bonn and Washington.

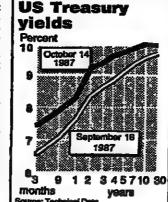
Innet Bush

Braverman described its earli-er stance on short term rates. Thus, it seemed unlikely the Fed will increase its discount tially inflationary, the statistical series has lost some of its credibility because of the ex-The stock and bond markets tensive restructuring of US in-

got a little edgy last week about the views on inflation and interdustry in recent years. cest rates expressed by Mr Alan Greenspan, Fed chairman, and Mr James Baker, Treasury Sec-retary. They both insisted that present interest rates were based on far too pessimistic forecasts of inflation and once the market realises that inter-

the market realises that, interest rates will fall.

The trouble is, the market does realise that. But Washington and Wall Street are not hearing each other vary well at the moment. Some decisive ac-tions and clearer words are



rate in the immediate future.

needed from the Fed and Tree-sury to reassure Wall Street that everyone is one the same

that everyone is one the same wavelength.

Lots of investors agree than bonds are a steal at 10 per cent, particularly when the stuffing is being knocked out of stocks. But next to nobody dares to buy bonds because they worry that interest rates are heading a bit higher, perhaps to around 10.5 per cent, in the short term because monetary policies and interest rates appear to be firming further in Japan and West Germany. Nobody wants to be a hero," one shell-shocked bond trader said last week

The following are the impor-tant economics statistics due for release this week, with in most cases a consensus forecast and range of market estimates surveyed by Money Market Services of Redwood City, Califor-

Capacity utilisation in Sep-tamber, due for release this morning should be unchanged from \$1.3 per cent a month ear-

OCTOBER 1987

•September's housing starts, due tomorrow, are expected to show a slight slippage to 1.55m from 1.58m in August. The range of 39 estimates is 1.4m to 1.65m. Sharply rising mortgage interest rates are likely to further depress construction in coming

Official prings a collection of September statistics, most important of which is the preliminary estimate for third quarter gross national product. A growth rate of 3 per cent at an annual rate is expected, up significantly from the second quarter's 2.5 per cent but down from the first's 4.4 per cent. The first quarter benefitted from some

activity postponed from the fourth quarter because of tax

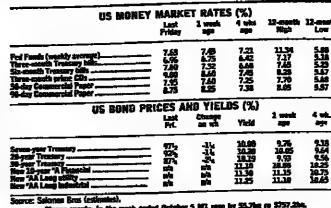
The consumer price index is expected to rise 0.4 per cent from August's 0.5 per cent gain, with a range of forecasts running from plus 0.2 per cent to plus 0.5 per cent.

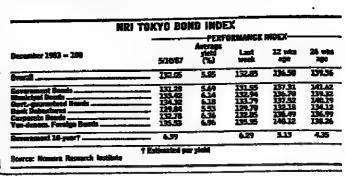
Durable goods orders are

forecast to have grown by 1 per cent in September, with esti-mates ranging from minus 0.2 per cent to plus 5 per cent A high rate would add to the market's nervousness about brisk economic activity stimulating inflation.

ePersonal income is expec-ted also to show a 0.4 per cent gain from August, with forecasts ranging from plus 0.1 per cent to plus 0.7 per cent. Personal con-sumption is expected to have fallen 0.1 per cent from August, with forecasts ranging from mi-nus 0.8 per cent to plus 1.2 per cent

Roderick Oram







Bid price 891, 168 184 1271, 1294, 327 205 811, 1021, 1021, 1001, STRAIGHT BONDS: Yield to redemption of the mid-price. Amount issued is expressed in millions of currency units except for yen bonds, FLOATING RATE NOTES: US dollars unless indicated. Margin above six-month offered rate (‡ three-month; § above mean rate) for US dollars. CONVERTIBLE BONDS: US dollars unless indicated. Prem=percentage premium of the current offective price of buying shares via the bond over the WARRANTS: Equity warrant prem=exercise premium over current share price. Bond warrant ex yid=exercise yield at current warrant price.

Clos

NEW ISSUE

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TWA board approves Icahn offer Saab

pany's stock he does not already stocks to withstand the onslaught union employees, but technically own. Approval clears the way for a of selling which rocked the markets the strike continues. vote on the offer by the minority as more than 1,700 issues fell and

Mr Icahn raised his offer to \$20 in cash and securities with a face val- Mr Icahn's terms, he will merge his ue of \$25 for each TWA share he holdings into a newly created pridoes not at present own. His initial vate company. He would control 90 offer in July was \$20 cash and \$20 per cent of its stock, with the bal-

Shareholders will vote at a mest- TWA's pilots and machinists. ing expected to be held in December. TWA said. A committee of independent directors has evaluated the control of TWA two years ago, after Read, the investment banker.

Which will be sept of Dillon, management had agreed to merge

American Airlines filed a \$100m in the US with roughly 25 per cen

Read, the investment banker.

with Texas Air. TWA's cabin crew suit in Fort Worth, Texas, on Friday of the air travel market.

Advanced

Micro in

By Our San Francisco

Finnish deal

only 111 rose.

If minority shareholders agree to in securities. The offer values the ance held by employee stock owner-whole of TWA at \$1.35bn. ance held by employee stock owner-ship plans to be established for

THE BOARD of Trans World Air—
The news boosted TWA's shares—union rejected Mr Icahn's stringent—claiming that Texas Air had used lines has agreed to an improved ofby \$2.25 to a close of \$31.75 on the—cost cutting proposals and went on—illegal tactics to persuade travel. fer from Mr Carl Icahn, its chair—
Mew York Stock Exchange on Friman, for the 27 per cent of the comday. They were one of the few vice with new employees and some computer reservation system from

> Mr Icahn, a noted corporate retoer in recent years, was thought to be interested only in selling off TWA's assets after he had taken it over. But a severe plunge in the air-line's fortunes and stock price forced him to manage the company. Wall Street sees his privatisation move as a way to unlock some of his subsequent gains from a revitalised TWA and to use them for oth-

American alleged in its suit that Texas Air threatened to drop commission bonuses to travel agents booking flights on its Continental and Eastern subsidiaries unless they joined the Texas Air computer system. Texas Air denied the allegations and said it would make a counter claim against American.

Through a series of aggressive takeovers in the 1990s, Mr Frank Lorenzo has turned Texas Air into the largest airline holding company

Swedish Match expects increased annual profit

BY SARA WEEE IN STOCKHOLE

ADVANCED MICRO Devices, a SWEDISH MATCH, the Swedish conglomerate and the world's leading match manufacturer, reported a 48 per cent increase in profits (after financial items) for the first eight months at SKr287m (\$45.2m), helpfacturer, has reached a long-term co-operative agreement with Miture and marketing of integrated ed by higher profits from its floor-ing, door and packaging subsidi-aries. circuits for the telecommunications

Initially, the two companies plan to introduce jointly a single chip modem circuit, a device that could The group expects full-year profits after financial items to show an replace the circuit boards widely used to link computers to telephone

strong position in the US telecom-munications markets for semiconductors, aims to expand its European market through the agree-ment. For Micronas, which is majority owned by Nokia, Finland's largest industrial company, the

shaving products manufacturer. Consumer product sales in-Taking comparable units, however, the increase in sales was 4 per cent. SKr2.89hn, but the market for dis-Tarkett, the flooring division, possible lighters is still facing tough shaving products manufacturer. Taking comparable units, however, Tarkett, the flooring division, showed an 87 per cent increase in

The increase was chiefly due to

price competition and while produc operating profits at SKr187m, while tion was restructured at the start of sales increased by 126 per cent to 1967, productivity is still not satistion was restructured at the start of factory, the group said. Swedoor, the doors division, in-

the acquisition of Pegulan, which is creased operating income from now being integrated, though SKr38m to SKr40m, and said inprofitability at Tarkett's hardwood come was affected by a wildcat increase on the 1986 figure of increase on the 1986 figure of increase on the 1986 figure of SKr500m and said that results for the period September to December The consumer products division, SKr679m and the division has made which makes matches, lighters and paper products, reported a 51 per dection technology. Return on capital employed fell months rose by 44 per cent due to SKr52m as a whole, even though the acquisition of Pegulan, the West the acquisition of Wilkinson Sword has improved the operating results.

Texas Instruments well ahead

BY LOUISE KEHOE IN SAN FRANCISCO

electronics and semiconductor man-ulacturer, reported a dramatic ry automation market through a \$65m acquisition.

TI also revealed plans to acquire
Transt income for the third quarter rose to \$69m, or 79 cents a share, from \$14m, or 14 cents, in the

semiconductor operations were severely affected by an industry-wide carnings increase for the third recession.

Quarter and announced plans to Sales were \$1410m, up 13 per cent strengthen its position in the facto-from the third quarter of last year. Announcing its quarterly results.

TEXAS INSTRUMENTS, the US same period last year when TTs Industries, for \$85m in cash. The acquisition is seen as part of Tl's strategic thrust into the factory au-tomation market in which it aims to

become a major player. TTs key semiconducto was, however, largely responsible for the improved third-quarter earnings, the company said. Net income for the nine-month period was \$215m or \$2.53 a share,

raises **forecast** for year

SAAR-SCANIA, the Swedish auto mobile and aerospace group, reported a 7 per cent drop in profits for the period May to August at SKr 850m (\$135.2m), compared with SKr823m the previous year, and has revised its full-year forecast upwards due to the strong performance of the truck divisi

Mr Georg Karnsund, chief executive, said that full-year profits (be-fore allocations and tax) would ap-proach last year's level of SKr2.3bn, proach last year a sever was helped by the strong increase in

Only last May, he had told share-holders to expect a drop in profits to the 1985 level of SKr2.9km. Profits (before appropriations and taxes) had fallen 13 per cent to SKr947m. in the first four months.

Group profits (before appropriations and taxes) fell 10 per cent to SKr1.806bn for the first eight months, compared with SKr2.012bn the previous year.

The decline is due to the lower dollar, but the group said that several factors had helped to compensate for the weaker dollar including higher sales, the use of higher cepacity, a more profitable product mix - chiefly of trucks and up-market cars – and an improved curren

More priority had been given to the Western European market where sales have increased by about 30 per cent in value over the

last year.

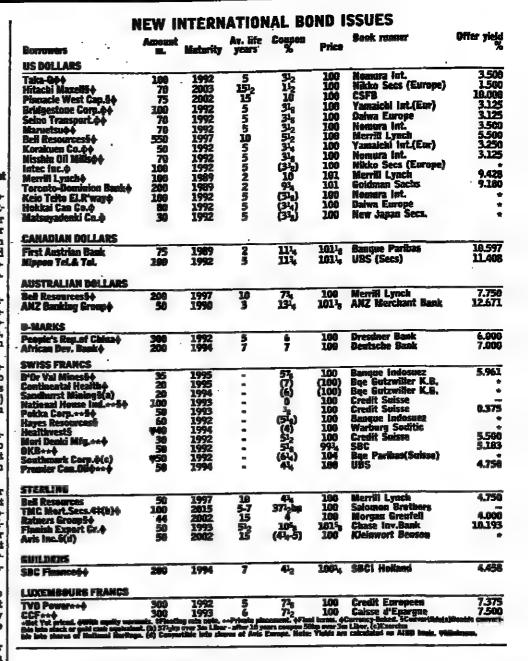
In the first eight months, 39 per cent of group sales were in Western cent of group sales were in Western Europe compared with 35 per cent last year. Group sales in Sweden were unchanged at 33 per cent while group sales in the US slipped from 20 per cent to 19 per cent. Group sales have increased by 14

per cent to SKr25.832hn. The Sca-nia truck division sales alone increased by 19 per cent to SKr11.372bn, leading to an increase in profits.
The Saab car division sales in-

creased by 12 per cent to SKr10.95hn, but the weaker dollar had a more serious effect on division profits, which were lower than in the corresponding period last

Analysis described the results as "a lot better than expected"

NEW ISSUE



Toronto bank buys broker

TORONTO-DOMINION, the fifthlargest Canadian bank, has boosted its share of the domestic discount broking market to about 50 per cent by acquiring Gardiner Group Stock-brokers of Toronto for an undisclosed sum.

The move is the latest in a string

of deals between major banks and Canadian investment dealers in response to the deregulation of the domestic financial services industry

Unlike its competitors which for Canadian stock exchanges. Also have opted for high profile pur- of interest, according to Mr Keith chases of full-service brokerage Gray, Green Line president, was houses, the Toronto bank has contact the discount broker's established centrated on building its presence expertise in options trading. The in the discount broking sector bank bought seats on the Toronto, through its Green Line Investor Montreal, Vancouver and Alberta Services unit, established in 1984. stock exchanges earlier this year. Gardiner's 11 branches and 100 employees will be integrated into the entities will account for at least 5 existing Green Line network.

The acquisition will give the bank onto Stock Exchange, Mr Gray a floor trading presence on the ma-

OCTOBER 1987

NEW ISSUE

mentation applications.

conductor manufacturer.

agreement represents an opportuni-

ty to broaden its market opportuni-

Since its recent acquisition of

Monolithic Memories, a neighbour-

manufecturer, AMD has claimed

the title of the largest exclusive manufacturer of integrated circuit

"chips" in the world. The company ranks as the fifth-largest US semi-

Micronas was founded in 1980

and specialises in the design and

manufacture of integrated circuits

ing Silicon Valley semiconductor

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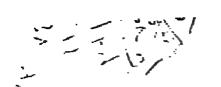
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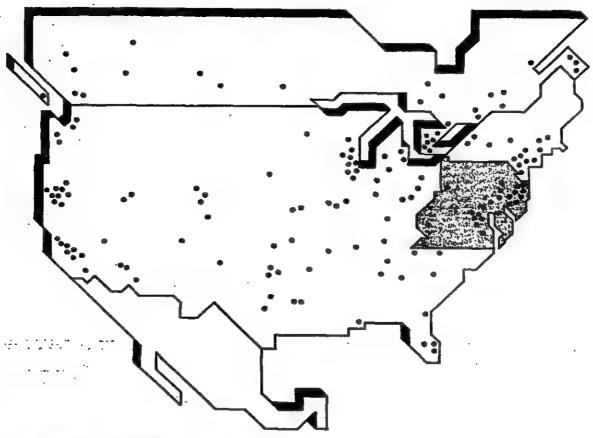
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\$21.09 billion. Revenues reached \$9.92 billion. Net income, \$1.17 billion. And, by stock market value, we are among the 20 largest corporations in the United States.

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JANUALITY 1804—SEPTEMBER 1807
32.2%

26.5%
24.0%

26.5%
24.0%

Rel Doe Jones Standard Americ September 1907

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(Incorporated in England under The Companies Act 1948 No. 735487)

—— Introduction by ——

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of 22,780,000 Ordinary Shares of 10p each

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in ordinary shares of 10p each

\$2,278,000

The principal activity of Worcester Group plc is the design, manufacture and sale of central-heating systems to the domestic market.

of central-heating systems to the domestic market.

The Council of The Stock Exchange has granted permission for the whole of the share capital of Worcester Group plc, currently dealt in on the Unlisted Securities Market, to be admitted to the Official List.

Details relating to Worcester Group plc and the above shares are available in the statistical services of Extel Statistical Services Limited. Copies of the listing particulars may be obtained during usual business hours on any weekday (Saturdays and public holidays excepted) up to and including 21st October 1987 from the Company Announcements Office, The Stock Exchange, Throgmorton Street, London EC2P 2BT, and up to and including 2nd November 1987 from:

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WORCESTER GROUP PLC

19th October 1987

UK COMPANY NEWS

David Waller looks at the changing fortunes of a former department store

Parrish thrives on corporate generosity

BIG BANG has been good for Parrish, the former Newcastle department store which is now the only independently quoted stockbroker on the London Stock Exchange. The Swiss Bank Corporation International has been even better.

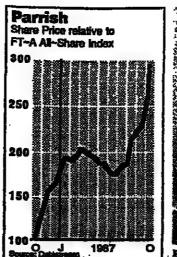
has been even better.

In what appears to be an act of unprecedented corporate generosity, SBCI earlier this month gave Parrish the private client business acquired when it bought Savory Miln in May. Parrish paid nothing to acquire a team of 25 specialist brokers, 5,000 clients and funds under management of more than \$200m.

Undeniably a coup for Par-rish, this new business is likely to add £2.5m to its gross commis-sion income in a full year and boost next year's pre-tax profits

The reasons for SBCI's mag-nanimous behaviour have not been disclosed, but it clearly

"It was then that Mr Hughes-don and Mr Peter Bainbridge, both former directors of Mer-



Peter Bainbridge, managing director (left) and Keith Hughesdon,

kers, they intended to apply the lessons learnt in money and currency markets to equities. They decided to avoid market-making and focus their resources on agency broking for the well-heeled private clients. "Whoever heard of private clients ganging up against you?" said Mr Hughesdon, "our experience of the money markets auggested that big institutional clients would be all too capable of doing so."

They reasoned that in the nanimous behaviour have not been disclosed, but it clearly wanted to divest itself of Savory's retail business without causing offence to 5,000 prosperous and probably influential clients.

A good home was required, and Parrish fitted the bill as a broker which has chosen to concentrate exclusively on the private client.

We were given a thorough going over. "says Mr Keith Hugh."

**The month of Big Bang, they bought two long-established steckhroking firms for a total of 21.2m; in January, they spent a farther £1.2m in buying another two firms, as well as a small

vate client.

We were given a thorough going over, "says Mr Keith Hughesdon, Parrish's chairman, and SBCTs vote of confidence in the group has done much to vindicate its strategy in the eyes of the City. In recognition of this, the shares have soared this month from below 700p to an all-time high of 830p.

At this price, the company has a market capitalisation of nearly £50m, more than four times as much as a year are and 50 times its value in the summer of 1985, when the company's sole asset was a loss-making department store on Shields Road, Newesstie.

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atention to pay a divide

for the first time since 1982.

Pre-tax profits amounted to

span,000 on gross commission

income of form, against profits of

548,000 for the whole of the

year to the end of January, and

fines.

Parrish has preserved its

commission structure intact

year and is now set to increase its

mai is now set to increase its

minimum charge per bargain

thest form £20 to at least £50. This is

to discourage the very smallest

private investor, for example,

he who wants to offload his Bp

allotment later this month.

Such business is simply unprofitable.

The ideal client likely to

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likely for example,

the ideal client likely to

tween £100,000 and £1

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of doing so."

They reasoned that in the post-Big Bang maelstrom, commission income derived from institutional clients would tumble as a result of sharply increased competition. It did, as parsimonious fund managers pared what they paid down to the bone. the bone.
By contrast, commissions paid by private clients have re-mained at their pre-Big Bang levels. Happily for brokers like Parrish, deregulation coincided with a bull market and the GovFinding new clients is not a problem, contends Mr Hughesdon. Brokers are regularly knocking on the door of Parrish's City headquarters, appropriately in the Old Rectory, Martin Lane, and with them come the clients.

There is no need to advertise for clients or brokers as specialist, private client executives

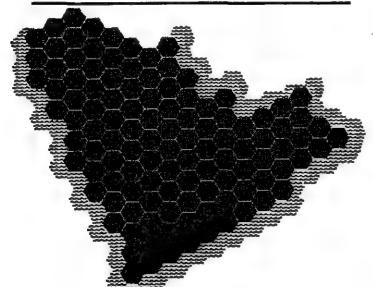
for cheens or prokers as specialist private client executives clamour to escape the inhospitable environment of the integrated securities house, where wholesale business will inevitably take precedence wholesale business will idevitably take precedence over the humble private client - as so well demonstrated by SECTs action earlier this month.

The success of the strategy was demonstrated earlier this month when Parrish released its interim figures and declared its intention to pay a dividend for the first time since 1982.

The ideal client likely to have between £100,000 and £Im available for investment. "Typically, he is likely to be a successful businessman who has no worries about income," says Bainbridge, "He backs his own judgement and takes an aggressive stance towards his portfolio. He is unlikely to be worried about how much commission he page."

The ahares are on a heady prospective p/e of over 40 for the year to January. This falls to just below 20 for the following year but if the bull market does peter out, the growth implied in that sort of rating would be difficult to sustain.

COMMITTED TO GROWTH IN THE GCC



Commitment — the driving force behind the spirit of enterprise at Gulf Investment Corporation.

Commitment to assisting the diversification and expansion of the economies of the Gulf Co-operation Council (GCC) countries.

Commitment to the initiation of a new generation of vital industries and services in the region.

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FINANCIAL TIMES STOCK INDICES										
	0ct. 15	0et. 14	0ct. 13	0ct. 12	Oct.	0cz_ 8	19 High		Since Co High	mpilation Low
Government Secs	84.90	85.65	85.78	85.63	85.49	85.68	93.32	84.49	127.4	49.18
Fixed interest	91.50	91.67	92.27	92.24	92.20	91.88	99.12	90.23	150.4	50.53
Ordinary	1812.9	1834.7	1847.4	1835.2	1858.2	1866.9	1926.1	1320.2	1926.2	49.4
Gold Mines	436.3	438.2	447.6	452.3	449.5	445.8	497.5	288.2	734.7	43.5
FT-Act All Share	1189.92	1199.58	1210.87	1205.17	1216.26	1218.65	1238.57	835.48	1238.57	61.92
ET CE 100	2201 0	2322 0	2350.2	2338 5	2366.5	2375.5	2443.4	1674 5	2443.4	0.3480

Banco Central de Costa Rica U.S. Dollars Floating Rate Serial Notes due 1988-1992 For the period 15th October, 1987 to 15th April, 1988 the Notes will carry an interest rate of 10%% per annum, with a coupon amount of U.S. \$52.10 per U.S. \$1,000 Note payable on 15th April, 1988.

16 DECEMBER 1987

The Financial Times proposes to publish a major survey on China on Wednesday. 16 December 1987.

Topics to be covered in the survey include:

POLITICS
FOREIGN RELATIONS
ECONOMY
BANKING & FINANCE
TRADE & INVESTMENT
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For more details about advertising in this survey and a copy of the editorial synopsis,

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FINANCIAL TIMES

Europe's Business Newspaper

BOARD MEETINGS

THE MORTGAGE BANK AND FINANCIAL ADMINISTRATION AGENCY OF THE KINGDOM OF DENMARK 9% 1979/1991 UA 25,000,000 On October 5, 1987 Bonds for the amount of UA 2,000,000 have been drawn in the presence of a Notary Public for redemption on November 22, 1987.

ring Bonds will be redeemable coupon due November 22, 1988 and following

1946/1 to 19807 Incl. 20808 to 22468 Incl. Amount outstanding: UA 18,000,000 | Administration | Section | Colorador | C 20307 and 20308 20747 to 20761 incl.

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		_			Gross		
High			Price	Change	ØY.(p)	76	P/E
		Ass. Brit. Ind. Ordinary		-	7.3	3.6	12,4
206		Ass. Brit. Ind. CULS		_	10.0	4.9	-
41	34	Armitage & Rhodes		_	4.2	124	4.8
142	67	BBB Design Group (USM)		-1	2.1	2.1	15,8
186	108	Bardon Group	187	_	2.7	2.4	32.0
286	95	Bray Technologies	186	+1	4.7	2.5	14.9
281	130	CCL Group Ordinary	2816	+2	11.5	4.3	7.2
147	99	CCL Group 11% Conv. Pref	147	_	19.7	10.7.	
171	136	Carborundum Ordinary	170	+1	5.4	3.1	14.6
102	91	Carborundum 7.5% Pref,	102	_	10.7	10.5	
179	87	George Blair		-	3.7	21	4.6
243	119	Itals Group		_		_	_
104	59	Jackson Group	104	+1	3.4	3.3	11.5
1185	321	James Витоией	1185	_	18.2		26.9
133	86	James Burrough 9% Pref,		-	12.9	9.7	
780	500	Multihouse NV (Amst\$E)	505	_			20.0
700	351	Record Ridgway Ordinary		-	1.4		24.1
67	83	Record Ridgway 10% Pref		_	14.1		
91	66	Robert Jenkins		_			3.0
124	42	Scruttons		_		_	
224	141	Torday & Carlisle		_	4.6		10.9
42	32	Trevian Holdings	42-mm	_	0.8		3.9
131	73	Unilock Holdings (SE)	92mi	_	2.8		16.9
26.4	115			_	5.9		19.3
201	190	W. S. Yeates		_	17.4		201
175		West Yorks, Ind. Hosp. (USM)			5.5		15.0
each.	rrues atlan	designated (SE) and (USM) at	الا والجمود وا	SHANCE	to the	rules	and

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INVESTORS IN INDUSTRY GROUP PLC. gland under the Companies Acts 1948 to 1967, Reg. No. 1142830

£75,000,000 Floating Rate Notes 1994 For the three month period 15th October, 1987 to 15th January, 1988.

In accordance with the provisions of the Notes, notice is hereby given that the rate of interest has been fixed at 101/16 per cent. per annum and that the interest payable on the relevant interest ment date, 15th January, 1988, against Coupon No. 13 will be 1,311.82 from Notes of 50,000 nominal and £131.18 from Notes of .5,000 nominal.

S.G. Warburg & Co. Ltd. (Agent Bank) WARDEN STORE STORE OF THE STORE STOR

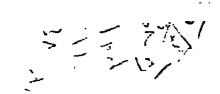
> The Commissioners of The State Bank of Victoria (a corporation constituted under the State Bank Act 1958 of the State of Victoria, Australia)

U.S. \$125,000,000 Guaranteed Undated Capital Notes For the six months 15th October, 1987 to 15th April, 1988 the Notes will carry an interest rate of 91/2% per annum with an interest amount of U.S. \$460.68 per U.S. \$10,000 Note and U.S. \$11,516.93 per U.S.

\$250,000 Note. The relevant interest payment date will be Listed on the London Stock Exchange

Bankers Trust Company, London

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FINANCIAL TIMES SURVEY



The region, as big as Switzerland, is a rich but diverse economic, social and cultural mix. The next few years will

be crucial as it attempts to build on initial steps aimed at carving out a strong independent identity. Paul **Betts** reports

In search of an identity

yards of the Rhone across to the peaks of the Alpa.

Better off than the majority of the country - the unemployment rate is 1.5 times lower than the national average - the region has also suffered from an identity problem. With its mountains in Savoy at one end, its old industries around St Etienne and the Loire at the other side, its lavender fields and Mediterranean agriculture in the couth and a network of high technology, financial, services and mannal mannal powerful.

Better off than the majority of the Rhone-Alpes and Lyons has est the real region the Rhone-Alpes and Lyons has est the real region the Rhone-Alpes and Lyons has the real region at centre, explained a leading R Rhone-Alpes councillor. Even though there is a lot of decence trailisation talk in Paris, the Lyons or Grenoble or Chambery is and not resolve it on a regional basis since most of the strings ranean agriculture in the south and a network of high technology, financial, services and manufacturing industries in the central axis between Lyon and central axis between Lyon and grace still in the capital.

Grenoble, not to mention its wines and gastronomic fame, the Rhone-Alpes is a rich economic, social and cultural mo-

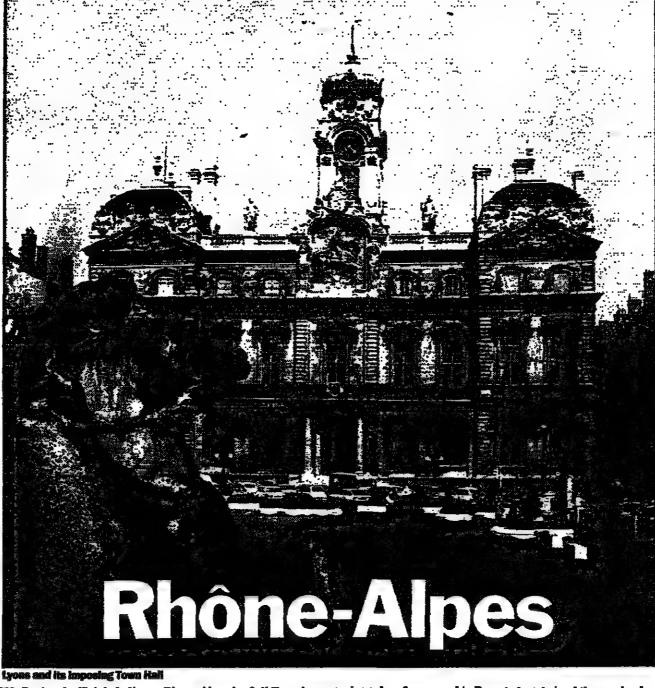
THE RHONE-ALPES has often felt a bit like Raymond Poulidor, the French cycling hero of its handicaps for as one local government official in Lyon active Sixties and the Seventies who was forever coming second in all the great races. The region, as big as Switzerland and larger than Belgium, has always been the country's second most important economic centre after Paris.

Three times closer to Geneva than to Paris, Lyons, the old capital of Gaul, has also suffered from an Avis complex as France's second biggest city. One Frenchman out of ten lives in this large diverse region which spreads from the vineyards of the Alps.

Better of than the materity of Tarris remains the capital of Tarris

create a genuine new regional mail, the N capital there is a serious danger that French regions like the Rhone-Alpes will come under the influence of neighbouring countries like Italy or Switzerland said another official

ty. They also believe that the



1992. Regional officials believe that after 1992 Paris has little gions in the strongest position to become such a centre since chance of remaining the only capital of France. If we fail to create a genuine new regional mail, the Nord Pas de Calais capital there is a serious danger that the trade of the seilles area to weak as a result of the economic decline around

countries like Italy or Switzerland, said another official.
Supporters of decentralisation in France argue that it is
now becoming increasingly important for the country to promote strong regional entities
with the necessary aconomic
weight and influence to become
major centres of influence
when the unified European
market of 1992 becomes a reality.

But the region believes that Lyons by specialising in the financing of small and medium sized enterprises can eventually become an important European financial centre for these smaller concerns to raise fresh capital. Already, Lyons has taken a lead in France in developing during the last few years a Moreover, the Rhone-Alpes has a number of undeniable as-sets to turn it into a major re-gional centre not only in a French but in a broader Euro-

en a lead in France in develop-ing during the last few years a thriving over-the-counter or second market.

The region also has a strong economic infrastructure thanks to the diversity of its indus-tries. Grenoble has become one of the country's leading techno-logical contras attracting major pean context. Geographically, it is close to the Swiss and Italian financial centres as well as the Italian industrial heartland around Turin and Milan. Lyons logical centres attracting major is already developing into an increasingly important regional financial centre although it re-

tional institutes.

In the Lyons area, the traditional textile and truck menufacturing activities, which two decades ago were the region's dominant industrial employers, have successfully been undergoing major redeployment and restructuring. The financial recoveries of the French Rhone-Poulenc chemicals and fibres group as well and of the Renault Vehicules Industriels (RVI) truck menufacturing concern are an eloquent reflection cern are an eloquent reflection of the way in which the region has adapted to changing indus-trial circumstances.

The same has been the case of the old coal mining activities around St Etienne, which of all the main cities in the region has

Lyons: a centralised tinancial centre for the region
St.Etienne: new hope for the

Grenoble: a city of learning and high-tech knowhow Profile: Alain Carignon, mayor of Grenoble and minister for the

Tourism: France's biggest holiday region after Paris Food end wine: In three star country Profile: Henri Giraud, peak flyer

decline of traditional indus-tries. But St Etienne is now making an effort to develop al-ternative industries concentrating on robotics and factory auto-

The search for new speci-alised market niches has been one of the main policy priorities of the region. We cannot simply exist because we do a bit of everything," explained a regional council official. "If we want to give the region a European di-mension we must develop what we call in French a number of 'creneau d'excellence' or

niches of excellence.
This has already been translated with the development of nuclear and other high-tech research and industrial activities. around Grenoble, the specialisation approach of the Lyons financial markets, and the development of a strong educational infrastructure in the region. This policy has also increasingly attracted foreign companies to the area as well as multinational organisations.

Interpol, for example, recent-interpol, for example, recent-interpol,

Interpol, for example, recently moved its headquarters down from Paris to Lyons. And Greno-ble rather than the competing scientific centre of Strasbourg was chosen as the home for a US\$100m European X-ray re-

search complex.
The flexibility of the region to adapt to changing circum-stances has been one reason for the better than average perfor-mance of the Rhone-Alpes

But its is the region's commu-nications links which offer the greatest potential to turn the Rhones-Alpes into a major Eu-Rhones-Alpes into a major European economic and transport hub. Lyons is already barely two hours away from Paris by TGV, the French high speed train system which has revolutionised rail travel in the country. The region now hopes that the TGV will soon link Lyons' Satolas airport to help transform it into a major international airport capable of competing against Geneva or even Paris.

The region is also campaigning for the construction of a Ffr 15bn canal to connect the Rhone and the Rhine. The project would place the Rhone-Alpes at the centre of a water transport system linking the North Sea with the Mediterranent.

There are also a number of

perhaps suffered most from the jor new East-West European decline of traditional indus-road axis to connect Switzer. land, Italy and Germany with the West of France and Spain. The Rhone-Alpes would thus find itself not only in the middle of a major North-South Europe-an transit axis but also of a new cross European East-West svecross European East-West sys-

> The region is now all the more bullish about these projects and its prospects because of the huge impact the 1992 Winter Olympics in Savoy is likely to have on the area as a whole - not only in terms of the internationonly in terms of the international publicity the winter games will give the region - but the stimulus they will provide to develop new infrastructures and regional tourism.

the former prime minister and one of the favourites to win next spring's French presidential elections.

The region is also the home of neveral other leading right and left wing politicians including Mr Michel Noir, the foreign trade minister, and Mr Alain Carignon, the environment minister, on the right, and on the left, Mr Charles Hernu, the former socialist defence minister, Mr Louis Mermaz, the former socialist president of the French National Assembly, as well as Mr Charles Fiterman the former communist transport

The far more active political role the region now intends to play at the national level re-flects its efforts to carve out for itself a strong regional identity

But before it can hope to achieve this, it will have to overcome the intense local regional rivalries, especially between cities like Lyons and Grenoble, which have so far bedevilled the Rhone-Alpas and prevented it from showing a strong common regional front against Paris. The success of decentralisation in this key region of France will ultimately depend on its ability to put its own regional house in order.

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tech sectors, 6 hyper-specialized and sound. salons to satisfy your specific needs In this merciless struggle, Grenoble and establish the basis for a complete A rendez vous that only an overcreates the occasion and generates exchange of ideas. The future is on loaded diary could leave out. But

Companies are sometimes very TEC 88, European Crossroads of future, advanced technology syssimilar to primitive societies! Only Technologies and Competitiveness, tems, laser and computer-assisted those capable of mastering transfers brings together among other high- vision as well as syntheses of picture

this "fire" which is indispensable for the schedule from the 12th to the 15th frankly speaking would it be wise to October 1988: materials of the miss such a breath of fresh air?

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RHONE ALPES 2

Lyons as a financial centre

Confidence is restored

LYONS MAY have given its name to France's third largest bank, but 15 years ago, the city was on the verge of collapse as a

The revitalisation has been most obvious in Lyons' stock ex-change, saved from years of decline to become an active mar-ket particularly strong in small and medium sized companies. But the city has also benefited from the relaunch of a range of banking and financial engineering activities which have served

ing activities which have served as a support for the expansion of the region's enterprises.

For Mr Gilles Brac de La Perriere, a Lyonnais by birth who returned to his native city in 1974 as managing director of Lyonnaise de Banque - now part of the state-owned CIC banking group - all that was needed was a little self-belief.

What immediately struck me

What immediately struck me was that this important histori-cal town was frustrated, decapi-tated of all its main company headquarters, lacking in headquarters, lacking in self-confidence, but it had all the necessary assets to become a city in the top rank," he says. We had to escape from a situation that was completely suffo-cated by centralism."

the view that even Paris was al-ready too small a financial centre on the international scale, and that development should be concentrated there.

But the interests of decentral-isation coincided with those of improving the access of smaller companies to equity capital. "By focusing available savings on a few dozen shares quoted in

Paris and in the major world markets a situation has been created which seriously preju-dices the financing of the medi-um sized company," concluded a

market, and then, in 1983, of the Second Market, opened the way

Since the 1960s, the Lyons stock market, like its counter-parts in Marseilles, Nantes, Bordeaux, Nancy and Lille, had been waning steadily, losing listings and turnover to the main stock exchange in Paris.
From 114 listed companies in
1970, Lyon could count only 51
in 1980, with a combined market in 1980, with a combined market capitalisation less than 1 per cent of that of Paris. If Lyons' market capitalisation is still on-ly 1.25 per cent of Paris's, it has none the less seen a sharp re-vival in new stock market flota-tions and in trading turnover.

The symbolic turnaround came in 1977, when the toymaker Majorette, based in the Lyons suburbs, chose to be floated on

its home stock exchange.

With 37 companies on full listings, Lyons also had 33 companies on the second market by the end of last year. Total equity market turnover has multiplied by ten in four years from FFr 630m in 1983 to FFr 6.63bn last year - 46 per cent of it in the

and it in the sound market turnover has also risen, though less spectacularly, climbing from FFr 9.44bn in 1983 to FFr 25.38bn last year.

Majorette is still one of the majorette is still one of the major companies on the Lyons of the world, by-passing financing circuits that had traditionally all passed through Paris.

This decentralisation did not go uncontested. A number of leading French bankers and the view that even the sector. To makers from outside the view that even the sector. To makers from outside the view that even the sector. To makers from outside the view that even the sector. To makers from outside the view that even the sector. To makers from outside the view that even the sector. To makers from outside the view that even the sector. To make the sector. To m that their industry is most close

Mr Jacques Bonnet of the University of Lyons, notes in a re-cent book that not one of the five largest companies listed on the Lyons market in 1966 is still there today: Southon Neuvesel merged with Boussols to form what is today France's largest food group, BSN; AEC Commentry was swallowed up by the state-owned chemicals group Rhone-Poulenc; Compagnic Lyongian Largestics of the control of the contro Rhone-Poulenc; Compagnie Lyonnaise Immobiliere moved to Paris; Manufrance collapsed; and Societe Lyonnaise was na-tionalised in 1982.

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The development first of the The success of the second pecial compartment of the market, however, has been such

Transport infrastructure Frankfurt. Basie, Munich Strasbourt Dijon Bourg-en-Bresse <u>Railways</u> Geneva Roanne Tunnel du Mont-Blanc Albertville Turk Grenob Tunnel de Frejus La Crobs-Haute Gap Toulouse Barcelons

that some now question whether it still fulfils its role of providing a way into the equity markets for smaller companies.

"Access to the second market is now reserved to companies with a capitalisation of around FFr 100m or more. It seems to me that we should now be me that we should now be looking at an over-the-counter or third market to give that access back to smaller enterprises," says Mr Brac de La Perriera, who with his deputy Mr Louis Thannberger, first at Lyonnaise de Banque and now at their newly created securities house Financiere de Lyon, is widely credited with being the driving force behind the development of the second market in the first place.

The idea of a third market has

The idea of a third market has also been supported by Mr Michel Noir, minister for foreign trade in the Government of prime minister Jacques Chirac

nd a Lyonnais himself.
The vitality of the seco

a helpful boost to other finan-etal institutions. The Societe de Developpement Regional du with an 18 per cent marke Sud-Est, the regional develop-ment authority founded in 1955, for example, has been enabled by the market to turn area in by the market to turn over its portfolio of development capiportfolio of development tal investments more rapidly by placing them on the Lyon

bourse.

The SDR du Sud-Est, which had remained merely a loan collector until 1977, has now at last become a real investment, with a clientele formed principally of small industrial companies," says Mr Bonnet.

Alongside the SDR, a new regional risk capital company, Siparex, was formed in 1977.

The capital was difficult to raise at the time. We said to ourselves that we would not start if we did not get FFr 50m, and in fact we raised FFr 50m, recalls Mr Brac de la Perriere.

Mr Brac de la Perriere.

Siparez, which has been recording significant profits growth, raised its capital earlier this year to FFr 313m, bringing in among other new inves-tors Barclays Bank of the UK.

two behind Nordica of Italy, with an 18 per cent market

share. Salomon is now the most ac-tively traded share on the Lyons stock exchange – or, indeed, on any French regional stock ex-change – with daily turnover in 1966 averaging FFT 6.05m. The traditional banks were perhanse a little slower to eatch

perhaps a little slower to catch on, but beginning with Credit Commercial de France and Banque Nationale de Paris France's largest commercial bank-they too began to develop their regional implantations in-to something more than just lending outlets, adding corpo-rate finance skills to their Lyone offices.

Despite its name, Credit Lyonnais was one of the slowes to react to the new vitality of Ly-ons as a financial centre, but it too was gradually converted to the idea of regionalisation and has now developed its Lyons of-fices into a major centre with their own direct international links. In the last five or six years, too, it has given a major boost to the Lyons bourse by listing most of its new bond is-sues there.

Its major success to date was Salomon, the ski bindings pro-ducer which was on the point of trying to diversify into ski boot manufacture — an area in which Comparison of regional imports

		in FFr(m)		as % of whole		
	Alpes	France r	ágional n	etional	%	
Agricultural products	1,965	52,848	2.6	5.5	3.7	
Agricultural and food industry products	3,934	67,355	5.3	7.0	5.8	
Raw mineral materials	336	10,596	0.5	1.1	31	
Metals	14,682	91,927	18.6	9.5	18.0	
Chemical products	12,950	135,304	17.4	14.0	9.6	
Professional						
ednjbweut 800ge .	11,766	171,980	15.8	17.9	6.8	
Household goods	1,523	19,405	20	20	7.8	
Passenger car equipment	4,012	38,262	5.4	3.8	11.0	
Spare parts and transport materials	3,106	31,703	42	3.3	9.8	
Consumer goods	10,849	128,720	14.6	13.4	8.4	
Miscellaneous	206	2,999	0.3	0.3	6.9	
Total without energy	65,339	749,190	87.9	77.8	8.7	
Energy products	8,973	213,555	121	22.2	4.2	
Total	74,312	962,745	100.0	100.0	7.7	

Comparis	sonot	regio	ialex	ports	
	value of c in FF: Rhône-		ahar as	e of expo % of whoi	rts •
		Prance r	égional n	ational	%_
Agricultural products	3,232	74,442	3.5	6.5	4.3
Agricultural and food industry products	2,969	76,580	3.1	8.8	3.7
Rew minoral materials	95	2.092	0.1	0.2	4.5
Metals	22,358	105,906	24.2	12.2	21.1
Chemical products	17,870	137,639	19.3	15.8	13.0
Professional equipment goods	22,010	198,563	23.8	22.8	11.1
Household goods	1,101	10,245	1.2	1.2	10.7
Passenger car equipment	382	48,836	0.4	5.6	0,7
Spare parts and transport materials	4,872	51,234	5.3	5.9	9.5
Consumer goods	13,835	123,344	14.9	14.2	11.2
Miscellaneous	1,225	8,965	1.3	1.0	13.6
Total without energy	89,849	837,816	97.1	96.2	10.7
Energy products	2,724	32,995	2.9	3.8	8.2
9.4.1	09 573	870 911	100.0	100.0	40.5

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St Etienne

Regional Cinderella

WHEN YOU first drive into St Etlenne, the third biggest city in the Rhone-Alpes region after Lyons and Grenoble, you can see Lyons and Grenoble you can see everywhere the scars of industrial reconversion. St Etiennie, with its 320,000 inhabitants, is today the Cinderella of the Ebone-Alpes after being one of France's most dynamic industrial regions in the past century. The dark coal pits are still there to see as well as the 19th century abandoned factories.

Inere to see as well as the 19th century abandoned factories, symbols of the area's past industrial glory. Once a key steel and metals, coal, firearms and cycle manufacturing centre, the city and its surroundings have faced the full impact of the decline of these industries.

On the walls along the main arteries leading into the city

there are all the characteristic signs of painful industrial res-tructuring and economic reconversion. There are union alo-gans opposing steel plant closures and others either condemning or supporting Jean Marie Le Pen,the French Na-tional Front leader whose pop-ularity has been rising in France especially in popular areas where jobs remain the

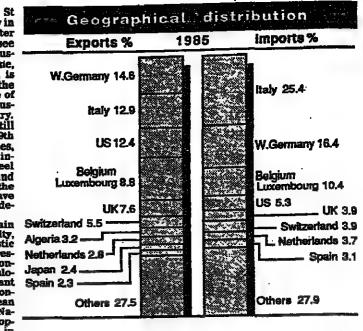
areas where jobs ramain the main preoccupation.
Indeed, Mr Le Pen's success has been especially noticeable in troubled industrial sreas where the Communist popular yote has swung round to the Front with the steady decline in influence of the French Communist Party. But if the first impression of St Etienne is that of a city hit by the collapse of its a city hit by the collapse of its traditional industries, the area is now making a brave come-back by successfully developing new industries and promoting job creating investments through a battery of fiscal in-

centives.
The fruits of these efforts are The fruits of these efforts are starting to show. The area is now developing an expertise as a centre of factory automation and robotics focused around a US\$4.1m regional factory automation institute known as the 'maison de la productique de St. Etienne'. It has also developed industrial zones to attract French and foreign enterprises to set up job creating plants in to set up job creating plants in

the area.

Renault's large truck manufacturing subsidiary, Renault

Vehicules Industriels (RVI), has for example established a so-called flexible workshop for its gearbox manufacturing operations in the area. The automated plant reflects both the regional efforts to develop new



as well as the major efforts de-ployed by the French state car and truck group to improve pro-ductivity through automation in its broad recovery programme. Among the large foreign groups to have been attracted by St Etienne is Union Carbide. The US chemicals group had at first considered going to the Ly-on area but was then lured to St Etienne by the city's investment incentives and its general atmo-Etienne. incentives and its general atmosphere and environment. Uni-

lever too chose the area to set up an automated yeghurt pro-duction line. duction line.

But the city's most indigenous multinational is the French Casino supermarket group which continues to be headquartered in St Etienne despite its extensive national and international operations. Rockwell and Schlumberger are also in the area as are the two US food giants Beatrice and Guaker Cais. area as are the two US food giants Beatrice and Quaker Cats.
Casino, unlike so many other
French groups which have
grown from modest regional origins into multinationals, has so
far preferred to maintain its
strong local links rather than
move its headquarters to Paris.
Despite the difficulties of industrial reconversion, St
Etienne has also managed to at-

dustrial reconversion, St Grenoble, its better endowed Etienne has also managed to attract new activities because of Alpes region, linger in the seciets central geographical positomated plant reflects both the its central geographical post-regional efforts to develop new tion and its good communica-high-tech activities in the area tions. Indeed, it is intricately

connected with the broad com-munications and industrial netvork which revolves all around

Lyons.
And the growing economic importance and development of this region is having an inevita-ble spill-over effect on St

But perhaps the most striking characteristic of the area, which differentiates it from its which differentiates it from its bigger regional rivals. Lyons and Grenoble is the intense sense of 'Stephanois' solidarity to their city and its difficulties. This strong community spirit has helped St Etienne attempt to overcome the hurdles of its latest industrial and economic reconstraint.

reconversion. And nowhere is this special spirit more evident than in the city's popular sport enthusiasm. St Etienne, like other old coal

and steel industrial cities, has always had one of the most suc-cessful and popular soccer teams in France Indeed, it may be no coincidence that St Etienne with its verts or greens as its team is popularly known is staging a recovery in the French first division league while the clubs of Lyons and Granoble. Its better endowed



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Grenoble

Rich mix of old and new

peaks of the Alps, Grenoble has terprises and research facilible on a centre of intellectual excellence and innovation since the fourteenth century. Its mediaevaluniversity founded back technopoles or technoparks in in 1339 has given it a cosmopolitan and international dimension which has turned Grenoble tions one of the most outgoing and open cities in France.

The so-called "zone pour l'innovation et les realisations one of the most outgoing indues" known as Zirst for short has created to date more than \$2000 new jobs.

From an old academic city it 3000 new jobs. has today evolved into one of the coantry's major centres of ly 140 small and medium sized technology and innovation. But enterprises two-thirds of which with the Alps at its footsteps, it are involved in high technology has also become a major tourist resortland an increasingly important convention contract.

portant convention centre.

Its industrial and technological development is the fruit of both the area's rich natural resources, especially in energy, and its educational and research backbone. Herbaro less than the second convention of the secon

10,00 teactors and researchers Grenotic has also been at the out of a total population of forefront of urban planning in 400,000 in the area, Grenoble France. Indeed, it recently inhas forged close links between augurated a novel new urban business and education at the tramway system to help resolve same time as attracting scient he city's growing traffic prob-tist from all fields from all over lems.

The choice of building a new transway network was taken afjor international boost in 1968 ter a popular referendum in
by being chosen as the site of 1963. Grepoble believes its
the winter olympics enhancing transway, which has also led to
its reputation and image. It now major a major urban renewal
expects to cash in again from programme in the city centre,
the 1992 winter olympics in could set a new trend in urban
maghbouring. Savoic since transit for either of the city of
the city was also given a may
remain the city centre.

from a strong tradition of vi- osition. mayors who have helpel the city evolve into a

7.2

The state of

HEMMED IN by the grandiose major technological centre and setting of the snow-capped a magnet for countless new enpeaks of the Alps, Grenoble has terprises and research facili-

and its educational and research backbone. Hydro-electric energy followed by the development of nuclear power leading computer services brought with them a series of industries and research institutes focused on energy and electricity production.

It is no accident to find that the area's largest industrial en-

It is no accident to find that the area's largest industrial enterprise is Merlin Gerin, the electrical equipment manufacturer with annual sales of FFr 8.5bi-which is controlled by the French Schneider group.

Grenoble has also grown into a leading centre for nuclear research with France's Atomic Energy Commission establishing lack in 1956 its Centre for trial development of the city.

ring lack in 1956 its Centre for Nuclear Research. More recently, Grenoble was chosen after a flerce battle with Strasboug as the site of the new Eurspean Synchrotrom radiation facility.

The technological and industrial development of the city has also been matched by a steady programme of new transport infrastructures including a bigh speed rail service to Paris and new motorway links to enhance the city's international tionfacility.

With its 36,000 students and competitiveness. Moreover, 10,000 teachers and researchers Grenoble has also been at the out of a total population of forefront of urban planning in

The choice of building a new neighbouring Savoie since transit for cities of the size of Grenoble will inevitably beGrenoble where an undercone a key port of call for the ground system would be ont of great olympic skiing circus.

Grenoble has also benefited an economically unviable prop-

Profile: Alain Carignon

A formidable political machine

cal landscape during the last few years. With Michel Noir, the RPR foreign trade minister from Lyon, and Philippe Seguin, the RPR social security and labour minister, Mr Carignon is one of the new faces brought into the cabinet of the

علما منه الممل

conservative administration of Mr Jacques Chirac, the prime minister. He has held the environment portfolio since the right return-ed to power 18 months ago. Al-though regarded as one of the junior ministeries in large part because of the apparent lack of interest in France in environ-mental issues, Mr Carignon has made his mark both on the na-tional and local level.

The 38 year old environment national consensus over nucleminister believes there is an increasing awareness developing firm in France, even though a

ronment is second only to un-employment today and is the biggest issue worrying France's young population in the 18-25

age group.

The awakening of public awareness in France to the problems of the environment has been noticeable since the Chernobyl nuclear disaster last year. France's vast nuclear power network was clearly the main reason for this sudden revival of environmental concern in the country.

It has also been a long-stand-

ing issue in the Grenoble area and the Rhone-Alpes as a whole since the region has one of the densest networks of nuclear plants in France.

Mr Carignon believes that the national consensus over nuclear power will continue to hold

and that the population is kept completely informed,the con-sensus will stick," he says. In-leed, at a local level Mr Carignon has always sought to have as open a discussion as possible with the local population over 'he nuclear issue. After some initial difficulties

over the siting of a number of major plants in the area, nuclear energy has become widely accepted as safe and beneficial to the region.

This constant dialogue with

the electorate and a constant drive to maintain close contacts with voters is one of the reasons for his political success. He took Grenoble by storm when he won the 1983 local elections snatching the town hall for the RPR from the late Socialist mayor, Hubert Dubedout, who

machine, Mr Carignon had technological developments campaigned with fury during The second is to contin the previous two years to win the Grenoble town hall.

to place the city on the interna-tional map and in his own words to give it a "new elan". Grenoble , he says, received a huge boost from the 1968 Winter Olympics

What I've been seeking to do is to create a strong union between industry, education and the city. The challenge is all the greater with the prospects of the European unified market in 1992," he explains.

ALAIN CARIGNON, the mayor in France over the environof Grenoble since 1983, is part ment Leaning back in his large of a new generation of young office in the Grenoble town doubts among the population neo-Gaullist RPR politicians which have increasingly made survey showing that the enviwhich have increasingly made survey showing that the envitheir mark on the French politironment is second only to un-

The second is to continue building up Grenoble's reputa-tion as a high-tech research and His success at Grenoble has also been the result of his drive to ensure that the city adopts an increasingly international ap-proach to reinforce its competi-

1300 2 3

If his predecessor, Mr Dube-dout, was regarded as one of pled with their economic adbut it subsequently needed a France's great urban planners, boost to help it develop as a major international high technology industrial and research central cations man. His marketing and acute political sense are al-ready bearing fruit as Greno-ble's international reputation

steadily rises.
The forthcoming winter olympics in nearby Savoie in 1993 are likely to reinforce this repu-tation abroad. But Mr Carignon He sums up his strategy for also acknowledges that cou-



Alain Carignon: seeking a new

vantages, the games will undoubtedly pose environmental problem.

But we are working very closely with the authorities in Savoie to ensure that all the en-vironmental interests of one of the most beautiful regions of France can cohabitate with the preparation of the games," he

Winter Olympics

Quarrels over the pistes

THE HIGH POINT came a year ago, when Albertville and its surrounding resorts in Savoy heard that they had won the competition to host the Winter Olympic Games of 1992.

The low point came in January when Mr. Legar Claude Killy

ary, when Mr Jean-Claude Killy, the dashing French ski champi-on turned international busi-nessman, resigned as chairman of the Albertville Games organcriminations between the may-ors of the rival resorts, each fearing that they would not re-ceive their fair share of Olym-

"It won't be the same without Jean-Claude Killy. It is bad for our image, because abroad they do not understand his resignation, said Mr Laurent Boix-Vives, chairman of the leading French ski manufacturer Rossignol.

If accord has now been reached over the distribution of

events around the Tarentaise, the Alpine region clustered around the upper reaches of the river Isere, the financial out-look for the Games as a whole now appears less rosy. Since the

provisional budget was fixed at bers only too well the financial and Moutiers - further up the FFr 3bn, the dollar's exchange problems of the last French valley of the river Isere - to four rate has fallen by around 30 per Winter Olympics - at Grenoble cent, hitting prospects for in- in 1968, where Mr Killy became The distribution of events, the cent, hitting prospects for in-come from the media groups planning to televise the Olym-

But the Savoyards can now. settle down to organising the event and the infrastructure to support it, and leave behind them their resort rivalries.
Since Paris failed in its bid to

be selected as the site of the beselected as the site of the 1992 Summer Olympics, losing to Bercelona, Savoy has taken over as the French standard-bearer. And although the central government of prime minister Jacques Chirac is keen to underline where the state. financial responsibility stops, and that of the region begins, the Albertville games now have the full weight of the state behind them.

hind them.

"I want all the French people to take note little by little that we are talking about a grand national design. It is a national priority," Mr Chirac said on a visit to Chambery, the capital of Savan acriler this way. we are talking about a grand national design. It is a national priority," Mr Chirac said on a visit to Chambery, the capital of Savoy, earlier this year.

The work will include the extension of the motorway from priority," Mr Chirac said on a visit to Chambery, the capital of Savoy, earlier this year.

The prime minister remem-

a national hero overnight with three gold medals - because he was at the time France's budget

Let us take care that this time we do not have to take urgent decisions in the last six months the financing of which is put off until later," he said.

But the state has already com-mitted itself to a major works programme which will benefit the Games, by accelerating its roadbuilding plans and improv-ing the transport links between Albertville and the outside

The government had already planned to remove some of the road bottlenecks leading into the Alpine valleys of the Tarentaise, at a cost of around FFr 800m. An additional FFr 1bn of roadworks is now planned.

bone of contention which led to

the departure of Mr Killy from the Games organising commit-tee, now appears to have been resolved. In the original candidature proposals - which some cynics say were drawn up out of politi-

cal necessity to ensure that the whole region would back the Albertville application - the men's closing ceremonies, at Albert-events were to be divided be-ville itself. tween the resorts of Val d'Isere,
Tignes and Les Menuires, with
the women's downhill events at
Les Menuires and Meribel.

The Iser.
Further demonstration events
will take place at Les Arcs,
which will host the speed skiing events, and at Pralognan,

politically. insensitive move ing place in the upper reaches since the Val is regarded as Killy's pet resort - and the women's Les Arcs, La Plagne and Tignes, will largely be completed in the upper reaches on Heribel.

events, has been given the ment more easily than might

have been expected after the

The distribution of events, the men's special slalom in com-one of contention which led to pensation, and Tignes the frees-he departure of Mr Killy from tyle skiing demonstration he Games organising commit-events. Besides these botty contested

Winter sports stays 😘 🔠

events, Nordic ski-ing will take place at Saisies, ski-jumping and ice-hockey at Courchevel, bobsleigh and luge at La Piagne, figure and speed skat-ing, as well as the opening and

Mr Killy regarded this seat-tering of events as unworkable, and proposed regrouping the designed to ease transport men's events on Val d'Isere - a problems, since the events taking place in the upper reaches of the Tarentaise, at Val d'Isere, on Meribel.

In the calmer days following first week. For their second his resignation this proposal week the games can move downhas in fact been very largely accepted, though Les Menuires, ilited by the women's downhill talse towns have reached agreements has been given the ment more assily than might

Killy furore, it remains to be seen if France's ski team can raise its performance and turn the Albertville Olympics into a domestic triumph

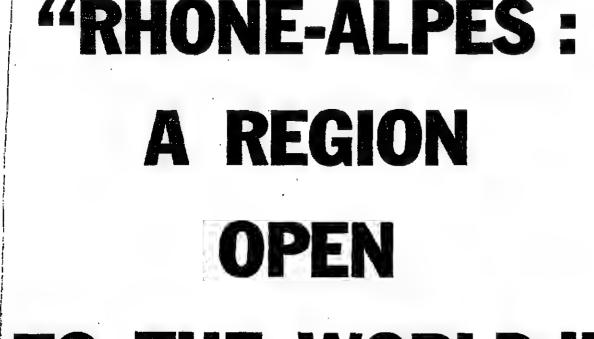
The French team had a thin time at this year's world cham-pionships in Crans-Montana, and the season ended in a sianging match between their manager, the Swiss Mr Roland Francey, and the ski manufacturer Rossignol, which supplies much of their equipment.

Rossignol suffered badly from the dispute, since its share price dropped 6 per cent in two days after Mr Francey had criticised the skis it had supplied to

Whatever the quality of the equipment, it may take more than hard work to produce a champion for 1992, to do at Al-bertville what Jean-Claude Killy did at Grenoble in 1968.

George Graham

"RHONE-ALPES: A REGION OPEN TO THE WORLD."







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GRENOBLE, THE CITY OF ENTERPRISE.

Ski slopes pull in the money

SURPRISING AS it may seem, the Rhone-Alpes and not the Riviera is the second biggest tour-ist region of France after Paris. With its snow-capped Alpine peaks, its winter and summer mountain resorts, its spas and lakes, its historic cities and varied countryside, not to mention its reputation as one of the great gastronomic and wine regions of France, the Rhone-Alpes has been attracting an ever increasing flow of foreign vis-

36

Winter sports are undoubted-ly the number one attraction. Germans and the Spaniards. With its 208 winter sports resorts, 2,000 ski-lifts, and 3,700 ski runs, the region has drawn to its mountains the great ma-jority of the six million skiers, including one million from abroad, who come every year to

The region is now seeking to stract even more skiers to its slopes by aggressive interna-tional marketing operations. This week (Oct 19-21), for example, the region is launching a major operation in London to promote local tourism and business opportunities in the Rhone-Alpes. It has already organised similar promotions in Japan and the US.

Profile

Henri Giraud

for the past

forty years

Flyer

has pioneered

mountain flying

I'me knone-Alpes regard the UK as one of its key tourist markets offering considerable potential for growth in coming years. Of the one million foreigners who come to French winter resorts every year, about a third are British.

Last season, 330,000 British skiers came to France. Of these 320,000 came to the Rhone-Alpes resorts. The region expects that the number will grow even more this year to over 350,000 British skiers.

But it is in Britain that the re-But it is in Britain that the re-gion believes there are the best chances of growth. To this end, the Rhone-Alpes is competing actively against the rival resorts of Austria which have tradition-ally been a key market for Brit-

ish skiers.

However, there is a big difference between the Rhone-Alpes resorts and the Austrian ones. Although each offer about the same number of total beds -around one million each - the characteristic of the Rhone-Alpes is that 800,000 beds are to tional ski school has been start-be found in self-catering flats ad where the monitors speak with the remaining 200,000 beds three languages including En-in hotels. In Austria it is com-pletely the opposite with well as French. It is the first ex-

very different," acknowledged a French tourist board official. But we are now seeking to di-versify our winter resort offertype resorts as well as the pur-pose-built modern resorts which have mushroomed in France during the past few

At the same time, the region believes its ski resorts backed by a strong locally-based winter ports equipment industry will be given an enormous boost by he forthcoming winter olym-pics in Savoie in 1992. The games will not only improve the general winter sports infra-structures of the area and its communications, but also give it

Moreover, to respond to the growing foreign tourist market, the region is encouraging greater use of English as a language used by ski instructors. Already at the Alpe d'Huez, an interna-

The Rhone-Alpes regard the 800,000 hotel beds and 200,000 periment of its kind in France. But sking, although dominar in the region's tourist industry. But skiing, although dominant in the region's tourist industry, is not the only big attraction of the Rhone-Alpes. The region's lakes and spas as well as its hisiorical and cultural landmarks have also acted as important magnets to the area. The Chartreuse monastry, for example, attracts as many as 200,000 visitors every year.

Tourists are also lured to the area by its wealth of good wines and its gastronomic delights. The region's major cities are also important tourist poles in different ways.

Lyons, for example, has made increasing efforts to boost its international tourist image especially at a time when like other parts of the country it has been forced to adapt to a decline in American tourist business due to the fall of the dollar and also to the fars about terrorism. to the fears about terrorism.
"We used to have about 140

We used to have about 140 Americans every weekend which represented an important aspect of our weekend business," remarked the manager of the Sofitel, one of the leading modern hotels in the heart of Lyons. They were an important complement to our traditional weekday business."

But the Americans are now beginning again to return. This is noticeable especially in Ly-ons where Americans have traditionally come to feast on the area's network of three, two and one star Michelin restaurants. Moreover, the remarkable restoration of the old city of Lyons has also attracted many people. Lyons like Grenoble is also

striving to attract more busi-ness conventions. But the problem for Lyons is that it still needs a big 400 room first class hotel to complete its tourist in-frastructure especially to attract large congresses and conventions at a time when many other major French cities are competing fiercely for this type of huriness

Above all, however, Lyons needs to improve its international image. For too long we have adopted a discreet profile to marketing. We now need to boost our efforts to promote the city abroad," remarked the Ly-ons tourist director. "For too many years Lyons has been a beautiful woman dressed in Laura Ashley clothes. It's now time it showed a bit more leg, he added.

Paul Betts



Annecy: view from the bridge on the River Thiou of the twelfth century ancient prison Palais d'Isle. Below, the Palais des Sports, Gr



Food and wine

The stomach of France

"YOU WILL probably find that one out of two Americans cannot place Lyons on the map of France. But ask them where Paul Bocuse is and they will immediately pinpoint the site of the famous restaurant," remarked a regional toward official ed a regional tourist official in Lyons, the self-proclaimed gas-tronomic capital of France and home of Paul Bocuse and scores of other venerable hostelries.

An evening at Paul Bocuse's garishly painted restaurant in the auburbs of Lyons between the river and the railway line is

an extravagent experi-ence. There are busts and pic-tures of Bocuse everywhere in the restaurant, even on the nap-kin rings for modesty has

American and Japanese visitors invariably creep into the kitchen to take snapshots of the master and his army of cooks and then they take more snap-shots of every dish put before them. After eating their "soupe aux truffes noires VGE" (a dish specially prepared for former President Valery Giscard d'Es taing when he was in the Elysse Palace), the "loup de ligne en croute a la mousse de homard", the "poularde de Bresse", the cheeses and the huge selection the "poularde de Bresse", the cheeses and the huge selection of sweets, they can buy souvenirs of the great chef and his restaurant in the little shop next to the bathroom and telephones if they have any loose change left.

In France, six are to be found in the region including the Freres Trolsgros at Roanne, Alain Chaptel at Mionnay, Chariyne Bise at Tailoires, Georges Blanc at Vonnas, Pic at Valence and Bocuse at Collonges au Mont d'Or just outside Lyons.

For dining at Bocuse, like at any of the Michelin three star restaurants, is also an expensive experience. There is a set menu at FFr 525 and another at FFr 480. The wine list is extensive and if you have the inclination you can order a bottle of 1972 Romanee Conti Leroy for a mare FFr 8450 +

But mountain flying is not only limited to skiers. Two often dropped businessmen in the courtyard of their mountain hotels, says Mr Giraud. Many visitors in the region also hire the planes in the summer for panoramic trips around the Alps.

mere FFr 8450 +

Bocuse's flamboyant and extrovert personality has made him as many critics as admirers these days. But even his critics, who say that there are at least ten restaurants better than Bocuse in Lyons, acknowledge the major role Bocuse has played as Indeed, flying in these small irrest is a unique sensation

Indeed, it was Bocuse who did more than anyone else to revive during the past two decades the international image of French haute cuisine. Moreover, his restaurant has been a breeding ground for a whole new genera-tion of new chefs in France.

But if Bocuse has always captured the international culinary timelight, the Rhone-Alpes re-gion, appropriately known as the stomach of France', has al-so produced a crop of other leg-endary chefs. Of the 19 restaurants with three Michelin stars the Loire and the Rhone is com-

But the region is not only made up of three or two star restaurants. It is dotted with a constellation of small establish-ments which all take enormous

pride in the preparation of their local dishes and speciali-ties. And it is no quirk of history that the Rhone-Alpes has had such a long and distinguished

The region's geography provides one major explanation. Bernard Pivot, the French broadcaster who has become the country's literary conscience, has written that if he was a geography teacher he would teach the reliefs and demography of the Rhone-Alpes with the help of regional and local gastronomic specialities—Lyons with its dry sausages: Grenoble with its walnuts and gratin dauphinois'; Bresse and its chickens; the Ardeches and its chestnuts; and the Dombes its chestnuts; and the Dombes with its frogs to name just a few.

The range of specialities and the variety of local products specific to the different parts of the region from the Ain and the Ardeches, to the Drome, the Is-ere, Savoie and Haute Savoie,



ne of the great regional cheft (left to right) Ge to Point, Alain Chapet, Jacquee Pio

in France, six are to be found in plemented by the area's great During the last few years, the wiolais have wines of the Beaujoists have made a major international breakthrough as a result of ag-gressive and clever marketing on the part of the region's wine

nts and producers. The links between wine producers and the region's master

chefs are also close. During a recent visit to a vine-

yard at Morgon, what looked like a little shrine in honour of Paul Bocuse decorated the en-trance of the cave. A little fur-

en flooded in a red Boujolais. Everywhere in the Rhone-Everywhere in the Rhone-Alpes the taste and melis of good cooking linger in the coun-tryside and in the streets of the towns and villages. For good eating and drinking lave long played a major role in shaping a region whose inhabitants have always had the reputation of be-ing the greatest trenchermen of France.

ther up the road at Flexrie, the local Michelin two star restau-rant, the Auberge du Cep, a

charming and unpretestious es-tablishment, served as its plat

de resistance a delicitus chick-

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lend Giraud (left) with his small alread which he has basied on Mont Chine

the peaks THERE IS nothing more exhilarating than mountain flying. The little four-seater sircraft, a sort of flying stock car, skimmed past the peaks of Alps over deep

among

the tiny sircraft was landing on a small field on top of a 1600 metre mountain near the pic-turesque hamlet of Villard

the pilot turned the plane around and before his bewildered passengers could gasp, plane, has been a ploneer of

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25 rue Bossuet 69006 Lyon Tél.: 78.52.35.67 . Télex 300 295 mountain flying. The 67-year-old flyer, a rugged man of the mountains,has helped develop this special form of mountain transport which has also be-come a sport in its own right.

Mr Giraud holds the Enrope-an record for mountain landing. Back in 1960 he landed his tiny craft at the top of Mont Blanc, craft at the top of Mont Blanc, Europe's highest mountain 4807 metres above sea level.To per-suade the French authorities of the safety of this form of trans-port, he took a French transport minister in the Sixties in his plane and dropped him at the top of a glacier 3500 metres above sea level.

This prompted the govern-ment to pass six months later legislation allowing planes to land on glaciers and so-called 'altiports' at the top of moun-

Most of the big French Alpine ski resorts now have altiports. But the French Government still refuses to allow the smail mountain planes to take skiers to the top of runs by air.

"We used to be able to take skiers to the slopes. In fact I've taken 15,000 skiers in my plane in my time, explained mr Gi-raud in his tiny cockpit flying near a mountain where a herd near a mountain where a herd of chamois were climbing up the rocks."But the Government has stopped us taking skiers, claiming that mountain flying risked becoming an environ-mental hurard."

The argument of the authori-ties is that planes and helicop-ters flying all round and on top of the Alps could seriously disrupt the natural environment ding to the risks of avalanches.

Mr Giraud and the other Mr Giraud and the other French mountain pilots dispute this, claiming that transporting skiers by plane is allowed in neighbouring Switzerland and Italy. This alone is expected to persuade the French Government to change its mind on what and the property of the property could clearly constitute a major new attraction for winter holi-

Moreover, mountain flying is not a particularly expensive pastime. Indeed, it is less costly than water skiing in Mediterra-nean resorts. Mr Giraud says it nean resorts. Mr Giradd says it costs about FFr 680 (about £86) to fly for an hour in his plane which is part of a small aeroclub based in Grenoble. The cost is obviously less if several people take the same plane.

aircraft is a unique sensation.
My partner during a recent
flight with Mr Giraud was breathless when the veteran mountain pllot stopped the engines and glided silently between two imposing mountain parks.

"You feel like Saint Exupery," she exclaimed. I can see how people become philosophers and mystics flying in these magnificent small flying machines. It's mind blowing."

Cultural attractions

Paul Betts

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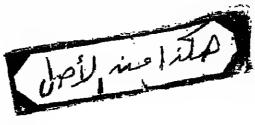
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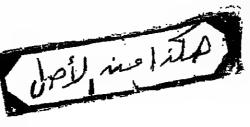
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Baillie Gifford & Co Ltd John) Ur a House, 4 UI-378 W AurkanGrant FL77.20 P.55 A STREET BUSINESS 7.506 3.50 11. 10.50 2.50 2.50 2.50 11.50 11.50 11.50 11.50 11.50 11.50 11.50 11.50 11.50 11.50 11.50 FI.46.30 EQUITIES FI.16630 923 Poid Associ. 19 Date ispan Price FL44.80 Price High Low Pl.46.30 2011 170 96 6/11 240 23-10 27 - 160 - 182 - 73 99 111 - 160 13/12 144, Alles 10s. #Arrer Pleat.inc. 80.02. #Agel Lensing 10s. #Hatolic Assets Wirels #Banner Homes 10s. #Banner Homes 10s. #Outs #History 10s. #Corp. Estates Prop.Sp. #Dolphis Pleat. Sp. EPM Oragon 7 nnt Sp. Ergitch & Caledonius (pt. £130 £61 175 151 64 213 21 110 140 72 55 135 135 135 151 65 25 26 141 172 106 148 141 FIJES50 136 154 1584 3583 1181 3043 210 270 270 310 10.50 2.50A Battle Trust Managers Lig 20 Criswell Bt, Lanton ECLY 4TY American Edge Set. 91.5 Aperican Edge Set. 91.5 Approxime 24.1 FLAS.30 703 703 50 6100 703 50 6100 10 R.M.30 F1.253.20 FL108.10 1310 1310 3.50 Septiment of the septim Consense Control Contr F1136 575 010 1310 3 F1128 1280 230 888 6.50 F1.126.50 RIS 42 04 574 RIS 42 04 576 RIS 42 00 576 RIS 30 23 306 RIS 30 23 316 RIS 30 23 316 RIS 30 23 316 50 22 144 121 57 108 518 113 243 91 82 168 **二 33** TOTAL VOLUME IN CONTRACTS: 142,740 A-Ask B-Bid C-Caft P-Pag 23/10 FT CROSSWORD PUZZLE No. 6,459 +5 FIXED INTEREST STOCKS Strong of Ground Tra. 53 Managery Lad Allerton Contract Engineering Lad Allerton Contract Engineering Lad Allerton Contract Engineering Lad Allerton Contract Food. 73.0 Tr. 7.1 English Contract Food. 73.0 Tr. 7.2 Allerton Contract Food. 73.0 Tr. 7.2 Allerton Contract Food. 73.0 Tr. 8.1 Allerton Contract Food. 73.1 Allerton Contract F Prise -Price £ Ampeeti Paki Up Renund Date 1056 AGS Research 5.21 Cm. 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(6-2-6) 10 Among versatile instruments 9 Stew with RN is split all over 19 071 071 071 075 140 160 289 135 the place (6) 14 One way to express one's 11-5-621 feelings abroad (6-4) 17 A puh, by the way (9) 18 Judge the musical instrument (8) 29 Reddens on breaking the 108.0 389.2 10.88 10.88 3.97 2.98 the — (it sets the tone) (5-4) 11 House one way, then the other way. A big fuss (3-2) 12 Low-lying land by entry to dyke shut out (4) 13 Some items from the chemist do (form many branches) (10) 15 Address round food parcel? (7) Tatel in Tes. 199. 9 Equality & Lane Un. Tr. M. (a) (c) St. Georgian Has, Corporation St, Corwestry Of St. Georgian Has, Corporation St, Corwestry Of St. Georgian Hasker 1914. 227. Hasker 1914. 1912. 1811 201.5 507.4 318.4 30.21.5 57.94 53.7 51.6 51.4 77.3 131.6 101.6 102.7 222.7 430.1 378.4nd 466.1nd 49.6 50.5 51.1 50.1 plates? (7) Assumes, takes the chair, under an order (6) 22 He keeps a book of matches 24 A side—not quite all relating to certain line (5) 16 UN star out in outer space (6) 18 Keep it open to look at the hat (6) A side—not quite all relating to certain line (5) Take top off furniture to get fit (4) +1 -1 26 Take top off furniture to get fit (4) As a result of production difficulties the solution and winners of Puzzle 6,452 were omitted from Saturday's paper. They are included here. Saturday's crossword was a prize puzzle as usual. TRAIINSPOTTER SHARN OF BRUENER SHARN OF BRUENER WILLE ON I I WELLE BRUENER MAN WELLE BRUENER HEREDITY PETRII I WELLE BRUENER HEREDITY PETRII I WELLE BRUENER WILLE BRUENER WILL BRUENER WILLE BRUENER WILLE BRUENER WILLE BRUENER WILLE BRUENE hat (6) 21 As proof of will, head takes in plunder (7) 23 Err? Teach us to change colour (10) 144.4 277.9 116.3 101.8 271.9 271.9 116.5 271.9 116.5 271.9 116.5 53.2 107.4 10.0 10.0 10.0 10.0 10.0 10.0 Remarciation date assumity lead day for dealing free of stamp days, a Annualised dividend, b Figures based on prospectus estimates. In Divident rate paid or payable on gart of capital, cover based on the defined on full capital, p Assumed dividend and yield capital, p Assumed dividend and yield capital, p Assumed dividend and yield capital and yield states on prospectus or other official estimates for 1987. It Dividend and Yield based on prospectus or other official estimates were assumed dividend, cover and prices annual payables, of Earnings based on prospectus or other official estimates. We Pro Former Figures 1 indicated dividend, cover and pre-trains based on prospectus or other official estimates. We Pro Former Figures 2 indicated dividends, cover capital payables, other based on pre-trains as a property of the payable of the pa est Ltd 25 Cut new growth and go away! 27 There's money in a zoo (5) 28 You must, if tied like this (4, St George's Way, Servenope CRALF all fold Growth User. 125.7 130.01 29 An extra student could be showing slackness (8) 30 Change direction round Durham area for superficial effect (6) DOWN 1 Fussy embellishment of Rugby Union in conflict repeatedly (4-4) 2 Fabulous lady, green in | PRESENTED | 101 | 1070 | 65322 | 102 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 1 UNIT TRUST, INSURANCE OFFSHORE, MONEY MARKET LISTINGS 91-247 1167/89 54.2 fancy dress (9) 3 Recognises snow drifts (4) For further advertising information, 5 They make the money nowa-Mrs R. Abrahamson, North Ferplease contact: days (7) 6 Fatigue making for reduc-tion in pressure (10) riby. Humberside: Mrs V. Sar-gent, Weybridge, Surrey: Mr R. C. Ingram, Wymondham, Nor-folk: Mrs S. M. Newsum-Smith, Pamela Faulkner 347 347 347 347 140 147 207 Financial Times, Bracken House, 7 End of road for explorer? Not much use (5) 10 Cannon Street, London EC4P 4BY Nottingham; Mr D. A. Yerrill, Slaughterbridge, Cornwall. 8 One who cuts down exercises Telephone: 01-248 8000, Ext. 3219 in back (6)

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Financial Times Monday October 19 1987 LONDON SHARE SERVICE TRUST INFORMATION SERVICE BRITISH FUNDS-Contd BRITISH FUNDS Price Last Yield E set let Red. Price Last Div % Red. | Bink | Stock | E | Mil | Int. | Bed. | Interest | Interest | Interest | Interest | Interest | Int. 150 60 40 9 15.77 2 94.23 2.75 14.23 15.00 11.49 14.50 12.05 9.75 11.52 \$3 11.5 \$2:63.8 \$0:61.4 65 5:85 128-3.6 1195:610.8 Lapr 10cs Greek 7pc Ass Feb 1Amp Do. 6pc 28 Sth. Ars. Lawr 10c; Do Apc Wherd Ass. May 1 Morellung 24 Ass 3.MMp 38Moolityte Ducket 15pc 2011 3.Mmp 38Moolityte Ducket 15pc 2011 3.Mm 38Moolityte Ducket 15pc 2011 Price Last Str TW Sms Cw Srs 31,4940 SL00 - 12 33,4940 SL00 - 12 30,29 - 19 15 57 52 51 17 52 **GOVT STERLING ISSUES** 2214r 22Sep Emi 19-ps. 1992 2111/17.8 | 12.11 10.44 4 Jan 4 Janjahrica De Bi III 14 Ja 2010 ...

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Marine Midland Overseas Corporation

5% Subordinated Guaranteed Convertible Debentures Due 1988 (Convertible into Marine Midland Banks, Inc. Common Stock)

Redemption Date: November 9, 1987

Conversion Right Expires: November 9, 1987 NCTICE 18 HEREBY GIVEN to holders of the 5% Subordinated Guaranteed Convertible Debentures Due 1988 (the "Debentures") of Marine Midland Overseas Corporation (the "Company") convertible into Marine Midland Banks, Inc. (the "Guarantor") common stock that, pursuant to the provisions of the Indenture dated as of May 15, 1968 (the "Indenture") among the Company, the Guarantor and Morgan Guaranty Trust Company of New York as Trustee, the Company has elected to redeem all the outstanding Debentures on November 9, 1987 (the "Redemption Date") at a redemption price of 100% of the principal amount thereof, together with accrued interest from May 15, 1987 to the Redemption Date in the amount of \$24.17 for each \$1,000 principal amount. Payment of the redemption price and accrued interest, which will aggregate \$1,024.17 for each \$1,000 principal amount of Debentures, will be made on or after the Redemption Date upon presentation and surrender of the Debentures at the offices of any one of the Paying and Conversion Agents set forth below.

the Paying and Conversion Agents set forth below.

Payments will be made on and after the Redemption Date against presentation and surrender of Debentures with coupon due May 15, 1988 attached either (a) at the Corporate Trust Department of Morgan Guaranty Trust Company of New York in New York City, or (b) subject to any laws or regulations applicable thereto in the country of any of the following offices, at the main office of Morean Guaranty Trust Company of New York in Brussels, Frankfurt (Main), London or Paris or at the main offices of Bank Mees & Hope in Amsterdam, Swiss Bank Corporation in Basle, Banque Internationale a Luxembourg in Luxembourg, Credito Romagnolo S.p.A. in Milan, Swiss Credit Bank in Zurich. Union Bank of Switzerland in Zurich or Banque de l'Union

Europepne Industrielle et Financiere in Paris.

The Debentures will no longer be outstanding after the Redemption Date. The redemption price will become due and payable upon each Debenture on the Redemption Date and interest thereon shall cease to accrue.

IMPORTANT: CONVERSION OF DEBENTURES MUST OCCUR ON OR PRIOR TO NOVEMBER 9, 1987 OR HOLDERS OF DEBENTURES WILL FORFEIT VALUABLE RICHTS.

Holders of Debentures have the right, on or before the close of business on November 9, 1987, to convert the Debentures into fully paid and nonassessable shares of common stock of the Guarantor (the "Common Stock") at the rate of 25 shares of Common Stock per \$1,000 principal amount, in order to exercise the conversion right, the holder of any Debenture to be converted shall surrender such Debenture, together with coupon due May 15, 1988 to any one of the Paving and Conversion Agents, accompanied by a written notice of such election executed by such holder, stating that the holder elects to convert such Debenture and specifying the name or names in which the shares of Common Stock deliverable upon conversion shall be registered, with the convertience with the terms of the Indenture, no payment or adjustment shall be made upon

In accordance with the terms of the Indenture, no payment or adjustment shall be made upon any conversion on account of any interest accrued on the Debantures surrendered or on account

any conversion on account of any interest accrued on the Debantures surrendered or on account of any dividends on the Common Stock issued upon conversion.

Any payment made within the United States or transferred to an account maintained by a non-U.S. payer with a bank in the United States may be subject to reporting to the United States Internal Revenue Service (1RS) and to backup withholding at a rate of 20% if payers not recognized as exempt recipients fail to provide the paying agent with an executed IRS form W-8 certifying under penalties of perjury that the payer is not a United States person. Payments to non-exempt U.S. payers are reportable to the IRS and those U.S. payers are required to provide to the paying agent an executed IRS form W-9 certifying under penalties of perjury the payer's taxpayer identification number (employer identification number or social security number, as appropriate) to avoid 20% withholding of the payment. Failure to provide a correct taxpayer indentification number or social security number will also subject a U.S. payer to a penalty of \$50.

MARINE MIDLAND OVERSEAS CORPORATION By: MORGAN GUARANTY TRUST COMPANY

INTERNATIONAL BUSINESS MACHINES CORPORATION

NOTICE OF REDEMPTION

6-3/8% Exchangeable Subordinated Debentures Due 1996

Exchangeable for Capital Stock of Intel Corporation

Redeinption Date November 10, 1987

Exchange Privilege Expires at the Close of Business on November 9, 1987

October 10, 1987
To the Ho'ders of 6-3/8% Exchangeable Subordinated Debentures Due 1996:
International Business Machines Corporation, a New York corporation (the "Company"), has called for redemption on November 10th, 1987, all its outstanding 6-3/8% Exchangeable Subordinated Debentures Due 1996 (the "Debenture: "), purchant to Section 7 of the Terms and Conditions of Debentures. The redemption price is 105% of the principal amount of each Debenture plus interpretation to the redemption date (or U.S. \$5,470.47 exchange their Debentures for shares of Capital Stock of Intel Corporation ("Intel Capital Stock ") pursuant to Section 4 of the Terms and Conditions of Debentures.

The following alternatives are available to the holders of Debentures:

(1) Holders may exchange their Debentures for shares of Intel Capital Stock in accordance with the provisions of the Debentures, Intel Corporation has declared a 3-for-2 stock split in the form of a stock dividend payable on October 28, 1987, to stockholders of record on September 28, 1987. The Debentures are currently exchangeable at a price of U.S. \$38.50 principal amount of Debentures for each share of Intel Capital Stock, equivalent to 129.870 shares of Intel Capital Stock per U.S. \$5,000 principal amount of Debentures. On and after October 28, 1987, the Debentures will be exchangeable at 194.805 shares per U.S. \$5,000 principal amount of Debentures, equivalent to an exchange price of approximately U.S. \$25.67 principal amount of Debentures in shares of Intel Capital Stock. As a result of the foregoing, holders of Debentures submitted for exchange who receive certificates for a number of Intel Capital Stock based upon the exchange rate of 129.870 shares per U.S. \$5,000 principal amount of Debentures, and a due-bill for an additional number of full shares, so that such holder will receive an aggregate number of full shares based upon the adjustiful amount of Debentures. Any such due bills will be non-transferable and will be satisfied by delivery of shares of finel Capital Stock after October 28, 1987. Certificates issued on or subsequent to October 28, 1987, upon exchange for Debentures in the Debentures or cash dividends on Intel Capital Stock. No fractional shares will be result by exchange on account of interest on the Debentures or cash dividends on Intel Capital Stock. No fractional shares of the Terms and Conditions of Debentures) of the shares on the business day next preceding the date the Debentures are delivered for exchange, as adjusted to reflect the 3-for-2 split where appropriate. The closing sale price of Intel Capital Stock as reported by NASDAQ on October 6, 1987, was U.S. \$60.75 per share (which price did not reflect t

(3) Holders may surrender their Debentures for redemption at the redemption price of 105% of the principal amount of the Debenture plus interest accrued to the redemption date. Interest will cease to accrue on the redemption date.

Exchange Privilege
Pursuant to Section 4(b) of the Terms and Conditions of Debentures, Debentures to be exchanged must be surrendered (in the case of a Bearer Debenture, together with all unmatured coupons appertaining thereto or, in fieu of any missing unmatured coupons, funds equal to the aggregate face amount of all such missing coupons) during regular business hours at the office of the Registrar or any Transfer Agent referred to below (or, in the case of a Bearer Debenture, only at the office of a Transfer Agent), by the close of business on November 9, 1987. The London office of Chemical Bank has been designated as an additional Transfer Agent for purposes of accepting Debentures surrendered for exchange. THE EXCHANGE PRIVILEGE FOR BEARER BONDS EXPIRES AT THE CLOSE OF BUSINESS ON NOVEMBER 9, 1987, AT 5 PM LONDON TIME, AND FOR REGISTERED BONDS AT 5

Debentures surrendered for exchange must be accompanied by a written Exchange Notice stating that the holder elects to exchange such Debentures and also stating the name or names (with address and tax identification number to the extent required) in which the certificate or certificates for shares of Intel Capital Stock deliverable upon such exchange shall be issued. Registered Debentures surrendered for exchange must be accompanied by proper assignments thereof to the Company or in blank for transfer.

Pursuant to Section 4(b) of the Terms and Conditions of Debentures, the Company will, as promptly as practicable after receipt of the Exchange Notice and surrender of Debentures in proper form for exchange, deliver or cause to be delivered to the surrendering holder, at the office of the Registrar or Transfer Agent at which the Debentures were surrendered, a certificate or certificates for the shares of Intel Capital Stock deliverable upon exchange, together with payment for any fractional shares and, if necessary, a due-bill with respect to shares of Intel Capital Stock deliverable as a result of the 3-for-2 stock split described above. Notwithstanding the foregoing, holders may elect, pursuant to the Exchange Notice, to receive delivery of such stock certificates, due-bills (and stock certificates in respect thereof) and payments by mail. Any such delivery effected by mail shall be mailed to the address specified in the Exchange Notice, and such mailing shall be at the risk of the holder.

The closing sale price of Intel Capital Stock as reported by NASDAQ on October 6, 1987, was U.S. \$60.75 per share. SO LONG AS THE MARKET PRICE OF INTEL CAPITAL STOCK EQUALS OR EXCEEDS U.S. \$42.125 PER SHARE (OR U.S. \$28.125 PER SHARE AFTER OCTOBER 28, 1987, REFLECTING THE 3-FOR-2 SPLIT REFERRED TO ABOVE), A HOLDER OF DEBENTURES WHO EXCHANGES SUCH DEBENTURES WILL RECEIVE INTEL CAPITAL STOCK WITH A MARKET VALUE, PLUS CASH IN LIEU OF FRACTIONAL SHARES, GREATER THAN THE AMOUNT OF CASH THAT THE HOLDER WOULD RECEIVE UPON REDEMPTION.

Pursuant to Section 7 of the Terms and Conditions of Debentures, the Company's option to redeem the Debentures prior to March 1, 1989, is subject to the condition that the market price of the Intel Capital Stock is at least 130% of the exchange price, on each of the 30 successive trading days immediately preceding the tilteenth day prior to the initial publication of the notice of redemption. This condition was satisfied as of September 24, 1987.

The payment of the redemption price will be made (i) in the case of a Bearer Debenture, at the main office of the Fiscal Agent in London, or, subject to applicable laws and regulations, the office of any Paying Agent referred to below, and (ii) in the case of a Registered Debenture, at the principal corporate frust office of the Fiscal Agent in New York or, subject to applicable laws and regulations, the main office of Banque Internationale a Luxembourg referred to below, upon presentation and surrender of the Debentures to be redeemed (in the case of a Bearer Debenture, together

FISCAL AGENT AND REGISTRAR Chemical Bank, 55 Water Street, New York, New York 10041, United States

London Office of Fiscal Agent, Chemical Bank, Chemical Bank House, 180 Strand, London WC2R 1EX, England

PAYING AGENTS Chemical Bank, 85 Avenue Marceau, 75783 Paris, France Chemical Bank A.G., Ulmenstrasse 30, 6000 Franklurt am Main 17, Germany Chemical Bank, Freigulstrasse 16, CH-8039 Zunch, Switzerland

PAYING AND TRANSFER AGENTS
Chemical Bank, Chemical Bank House, 180 Strand, London WC2R 1EX, England
Banque Internationale a Luxembourg, 2 Boulevard Royal, 2953 Luxembourg Ville, Luxembourg
Kredielbank N V., 7 Arenburgstraat, 1000 Brussels, Belgium

October 9, 1987

A

The Quarterly Report as of 30 th June 1987 has been published and may be obtained

> Pierson, Heldring & Pierson NV. Herengracht 214, 1016 BS Amsterdam. Tel. + 31 - 20 - 211188

The following alternatives are available to the holders of Debentures:

(2) Holders may sell their Debentures on the open market.

PM NEW YORK TIME ON THE SAME DATE.

with all unmatured coupons appertaining thereto).

MOTOR INDUSTRY The Financial Times is proposing to publish this Survey on WEDNESDAY OCTOBER 21

For full details, contact: COLIN DAVIES on 81-236 1434 FINANCIAL TIMES

Electronic **Financial** Services -Compétition &

19 & 20 October, 1987 London

Co-operation

The Financial Times fifth Electronic Financial Services conference will focus on competition and co-operation in financial services and the problems financial institutions face in managing technology to cope with the demands presented by the increased competition and deregulation. Some of the speakers

Mr Rudolf Bauer Mr Jacques De Keyser

taking part include:

Mr Des Lee

Mr Gene Lockhart Aidland Bank pic

Mr Bert Morris National Westminster Bank P

Mr Trevor Nicholas Barclays Bank PLC . Bectrenic Financial Services
-Congestion & Congestion To: Fluorical Times Conference Organization 2nd Floor, 126 Jermyn Street, London SW1Y 4UJ Tel: 01-925 2323 The 27347 FTCONF G Face se tel no.

DIARY DATES

COMPANY MEETINGS-

BOARD MEETINGS

Weltom Gold Mining Interligati

Govett Oriental Inv. Tat Orange Free State Inv.

Boosey & Hawkee East Rand Gold & Uranium Free State Consolidated Gold Me

Upton (E.) ONVOEND & INTEREST PAYME Abbott Mead Vickers 1.8p Automagic Hidge, 4.25p

Abbott Mead Vicient 1.8p. Automagic Helpa. 4.250 Britannia Arrow Helpa. 4.250 DrC Lint. 31cta. Cooper (Alari) 1.5p English & Scottlan Investora Excellur. 19evillery 0.05p Globa & Dandy 1p D. NWS, A 1p Highlands & Londerds Bertis Lint of Lesenth So.

Highlands & Lower Hot (Joseph) 5p Int. Inv. Tst. Co. of Jersey Sp Jacob (W. & R.) 2.8p

.33p Pleat Leigure 0.42p

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Macdonald No. Do. B 2p Complic Materials Sp

Magnetic Me... NCR Corp. 25cts.

Phicom 0.3p

resreutope Technology, Ladbroke Mercury Ho tel, Bagehot Road, Bracknell, Berks., 11.00

THURSDAY OCTOBER 22 COMPANY MEETINGS-Bolef, Prince of Wales Lane, Birmingham, TODAY BOARD MEETINGS-Please; Barrett (Heavy) Edinburgh kneesmi G R Holdings Highland Distillers Lowland investmen Sinciair (Win) Wolssley Interfers; Alban Hume Indi gion Group, 3, London Wall Buildings, Framington Group, 3, London Wall Buildings, E.C., 12:00 Haynes Publishing, Spankland Motor Musteum, Spankland, Sonerset, 1.00 Sirdar, Cata Court Hotel, Walkelleid, 12:00 SIGARD MEETINGS-Paraties

FINANCIAL

Produc; Govett Strategic Inv Tet Manganese Bronze Town Centre Sece Intertras; Altium Hume Intl
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COMPANY MEETINGSHoward Hidge. Kingston Lodge Hotel, Kingston-Lodge Hotel, Kingston-Lodge Hotel, Kingston-Lodge Hotel, Kingston-Lodge Hotel, Kingston-Lodge Hotel, Cardinary, E.C., 11 00
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Hughes Food Group 0.5p
laington Corp. 11.9% Red. 2017 8.88pc.
Johnstones Paints 1.765p
Limead 1.25p
Merrydown Wine Sp
Miler & Senthouse 1.6p
Caprey Contemprications 2p
P-E Intl. 1.2p
Poly Fook Intl. 1.75p
Temploton, Gestraigh 8.8cts.
Wells Fargor Steck.

WEDNESDAY OCTOBER 21 COMPANY MEETINGS-loingworth, Mayteir Inter-Continental Hotel, Stratton Street, W., 12.15 Forminator, Britannia Hotal, Groevenor Square, W., 12:00 Macro 4, Paintent Hall, B, Little Trimby Lene, E.C., 12:00 Moore, Sevey Hotel, Strand, W.C.,

Menvale 12.00 12.00
Sanderson Murray & Bider, Victoria Hotel, Bridge Street, Bradlord, 12.20
Smeth (W.H.) & Son, Millbertk Tower, S.W., 11.00
BCARD MEETINGS-Finals;
Totacharm Hotelpur leiberings Centron industries
Comprehensive Pinendal Services
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Hawker Siddelay
House of Lerose
DIVIDEND & INTEREST PAYMENTS-

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Sactigni Hentabin Tet. 2p.
Sectivets Group 4p.
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Do. B 1.05p.
Tilbury Group 2.2p.
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Trade Fairs and Exhibitions:UK

Metropele Exhibition Hall,

Brighton October 20-23 International Feight Industry Conference and Exhibition WORLD FREIGHT (01-642 7688) Barbican Centre, London October 21-23

Forces (01-855 9201)

UK Corrosion Exhibition and International Building and Con-Conference (0202 25544) struction Exhibition (01-486 Metrepole Exhibition Hall, 1951) NEC, Birmingham Conference (0202 35544)

Metrepole Exhibition Hall,

October 13-18 Gifts, Toys and Housewares Mar-ket Week (01-937 1889) November 17-21 Furniture and

October 24-November 1 November 16-20

Burson - Marsteller : Successful

fessional personal computer conference (01-925 2323) Rotel Inter-Confinental, W1

Riuwer Questmere Conferences: Financing UK Exports and Projects - changing Government support & alternative funding techniques (01-568

Current International Video and Communications Exhibition (01-240 (01-948 5168) 1871) (until October 21).

International Exhibition for Po-lice and Government Security

October 22-November 1 Motorfair (01-385 1200) Karls Court October 26-28

Brighton

Current
Automobile Equipment & Main- (01-225 5566) tenance Industries Exhibition -EQUIPAUTO (01-225 5566) (until November 17-21

October 24-November A National Transportation Fair -BRASIL TRANSPO (01-499 0877) Sao Paulo

International Electronic Com-ponents Exhibition - COMPO-

Business and Management Conferences

October 19-20 Financial Times: Electronic financial services - competition and co-operation (01-925 2323) Hotel Inter-Continental, W1 October 22 Space Planning Services: People and premises - a strategic approach to balancing conflicting demands (01-573 2271)

crisis management (01-831 6262

Barblean Centre,EC3
October 23-November 1
ECU Banking Association: World symposium on the role of the European currency unit (01-370 3178)

October 27-28 Financial Times: The fifth pro-

Nevember 1-3 at the future of hig CBI National Conference (01- tailing (01-379 7400)

6441) Empire Conference Suite, Lou-

Nevember 5-8 London Money Show - MONEY November 8-10

Camping and Outdoor Leisure Exhibition -COLA (08956 34191) Exhibition Centre, Harrogate November 10-12 Drives Motors, Controls and PC+ Systems Exhibitions (0799

NEC, Birmingham

November 12-32
Nec, Birmingham
Sovember 1
November 13-32
Scottish Motor Show (031-225)
3643) Exhibition Centre, Glasgon November 22-28

November 3-5
International Financial Services, Technology and Accountants Exhibition (01-749 9535)

Barblean Centre

December 1-3
International Trade and Services Exhibition and Conference - EXPORT (01-727 1929)
Business Besign Centre den

November 3-7
International Plastics Exhibition - INTERPLAS (021-705 World Travel Market Exhibition (01-940 6065)

Olympia

Overseas ELECTRONIQUES

Paris FINNTEC (01-486 1951) Furniture and Woodworking Machinery Show (01-379 0765) Talpel

November 25-28
North European Electronics Electrical Engineering and Power Transmission Exhibition ELECTROTEC (0202 687070)

buy and sell companies (01-637 Inu on the Park, WI November 5 The Institute of Directors : UK companies: the revenue offen-sive(01-639 1233) 116 Pall Mall, SW1

is (01-573 2271)

Butchers Hall, EC1

irsteller: Successful

sement (01-531 6362 a stimulus to business growth Day 2 - The development of Europe's new information markets (01-990 2233)

Chatham House, SWI

British Overseas Trade Group for Israel: British financial ser-vices to Israel symposium (01-

638 9537) City of London CBI: HIGH STREET 2000 - e consortium conference looking

Centre Point, London Institute of Directors: Coping with growth - directing the expansion of your business (01-839 1233)

116 Pall Mall, London

Anyone wishing to attend any of the above evenus is advised to tele-

Nevember 4-5 that there has been no changes in Acquisitions Monthly: How to the details published **FINANCIAL**

CONFERENCES WORLD ELECTRICITY

CONFERENCE London, November 16 and 17 1987

A major addition to the FT energy conference programme is World Electricity to be held in London as the privatisation debate develops and many major issues face the industry, those who direct it and those who finance it. Sir Philip Jones is to take the chair on the opening day and the speakers include: M Pierre Delaport, of Electricité de France, Mr Svend Erik Hovmand, the Danish Energy Minister, Dr Walter Fremuth, Chairman of the Austrian Electrical Corporation, Dr Axel Lippert, Managing Director of Bayer, Mr David Penn of Wisconsin Public Power, Mr Christopher Johnson, Chief Economic Adviser of Lloyds Bank, Mr William Varoquaux of Eléctricité de France and Dr I.

C. Bupp of Cambridge Energy Research Associates.

TIMES

WORLD TELECOMMUNICATIONS London, December 1 and 2 1987

Lord Young will give the opening address to the Financial Times eighth World Telecommunications conference. The changing pattern of competition in global markets will be reviewed by Mr James Olson. Chairman of the Board, A. T. & T., Mr William Weiss, Chairman and Chief Executive Officer, Ameritech and Mr Iain Vallance, Chairman, British Telecommunications. Professor Eberhard Witte will speak on German Telecommunications strategy, and Sir Eric Sharp will review the problems and prospects for global networks.

VENTURE CAPITAL FINANCIAL FORUM London, December 3 and 4 1987

This will be the fifth in the highly successful series of Venture Capital Financial Forums arranged by the Financial Times and the British Venture Capital Association. The event provides a unique opportunity for investment managers and senior executives from financial institutions and industrial companies to meet some of the leading venture capital backed companies in Britain—all of which will either be raising additional venture capital funding or seeking a public quotation, be it on the USM, the third market, or by way of a full stock market listing, in the foresceable future. The Forum is also for those raising equity for the first

All enquiries should be addressed to: The Financial Times Conference Organisation 2nd Floor, 126 Jermyn Street, London SWIY 4UJ Tel: 01-925 2323 (24-hour answering service) Telex: 27347 FT CONF G - Fax: 01-925 2125

UNIT TRUST <u>YEAR BOOK 1987</u>

With over 1,000 unit trusts on the market offered by more than 150 management groups, both private interests and investment professionals need comprehensive

grams, both private interests and investment professionals used comprehensive saidance on this diverse and rapidly expanding market. In the Year Book, you'll find detailed profiles of every authorised LIK mait trust, with full performance figures for each of the past six years. Each profile states the unbinum investment required; current value of the trust, the charges made, its principal holdings; a ten-year record of dividend distributions, and offer price highs and lows. Details for each management group include a summary history, address, telephone number, names of directors and names of the trusts managed. As well as these detailed analyses, the Year Book includes a number of other valuable tables; rankings by percentage capital growth over a series of years; trusts in order of size, including details for the last four years; trust yields, showing changes in net distribution; monthly sales and total funds, and management groups in order of size and performance.

in order of size, increasing centain our our sear over years, a can years our our search up to changes in set distribution; monthly sales and total funds, and management groups in order of size and performance. The Unit Trust Year Book also includes a number of important articles covering such vital topics as "Comments on Performance", "What is a Unit Trust", How to invest", "Choosing a Unit Trust", and "Getting Advice". In short, the Year Book has coerything you need to assess the value, performance—and future success—of these unit trusts giveney available. Published April 1987.

CONTENTS

Unit trusts - a new era? Comments on performs

Table of trusts to order of size Trust yield table
Monthly sales and total funds table
Trust yield table
Monthly sales and total funds table
Trust Groups in order

Choosing a tell Choosing a tell Choosing a tell Choosing action Cetting advice The role of the Performance to Indices	Usin Trust Association Since	Management Groups pable Management Groups Miningement Groups Unit trust details Trust for pession fund Trust mame changes an	is and charities
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Please debit my cred		weede payable to FT Busi Armex	nees information.
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age no least 28 days for delivery. Refunds are given on books returned in perfect condition and within 7 days of receipt. FT Business information Ltd., Registered Office; Bracken House, 10 Currian Street, London EC4P 48Y, Registered in England No. 980996.

Available in the form of International Depositary Receipts

NOTICE IS HEREBY GIVEN that the interim results of Jardine Strategic Holdings Limited for the six months ended 30th June, 1987 are available upon request from the Depositary and its Agent.

Banque Indusues Luxembourg 39 Allée Scheffer L-2520 Luxembourg 19th October, 1987

Agent of the Depositary Credit Suisse Paradeplatz 8 CH-8021 Zurich

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> > FINANCIAL TIMES
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495.9(27/8) **NEW YORK ACTIVE STOCKS** | Cleany | Change | Stocks | traded | perts | 30 and day | 5764,100 | 3764,100 | 135 | 5764,100 | 135 | 5764,100 | 135 | 5764,100 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | 136 | Closing pnct 33 93% 17% 30%

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CANADA

YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES Closing prices, October 16 | Cost | 1712 5114 105 1 10 2011年 2011 226年127年12日,1967年12日, THE STATE OF THE S

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NYSE COMPOSITE CLOSING PRICES

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cent in August economists are forecasting a smaller increase in

September of 0.3 per cent to 0.4 per cent, but a rise in the year-on-

vear inflation rate to 4.4 per cent

from 43 per cent As the dollar is likely to come under further pressure from the bad US trade

that the growth rate will be 2.6 per prices. After a large rise of 0.5 per

cent, compared with 2.5 per cent in the previous quarter and that the GNP deflator, a measure of US

inflation, will be up an unchanged

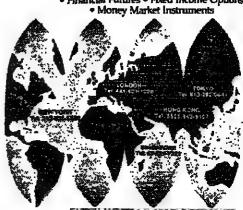
Morgan Grenfell expects stron-

ger GNP growth of 3 per cent, but Nomura is looking for only 2.3 per

cent. Nomura also expects the price deflator to rise only 3.3 per

£12,500 (pr

3.8 per cent.



H's just a lew pance

each week- and youll be TAX FREE making a contribution

CMMM Global Market Makers Primary Dealer in U.S. Government Securities Financial Futures • Fixed Income Options

figures, and fears increase about rising world money supply growth, the market will be looking ner-yously for any indication of high-Friday will be US consumer | Color | Colo Calls 1,681 Page 1,287 Calls—Last Nex. Dec. 12.90 -14.60 - 14.60 - 9.60 - 9.60 - 4.60 - 4.80 1.75 - 1.80 0a. 0.30-0.30-0.30-1.00-14.60 -9.65, 5.70,

£25,800 (cests per 51)		£12,580 (cents per £2		
Surfice Calls—Last Prize Oct. New. Dec. New. Get. 1.45 21.20 21.20 21.20 21.20 0.00 1.55 16.20 16.20 16.20 16.20 16.20 1.55 12.20 11.20 11.20 11.20 0.00 1.60 620 620 620 6.25 0.00 1.70 0.00 0.26 0.66 1.84 3.80 1.75 0.00 0.01 0.10 0.74 8.80 Estimated where total, Calls 282 Puts 1,319 Previous day's open int. Calls 282 Puts 1,319	Pais-Last Nov. Dec. Nitr. 0.00 0.00 0.02 0.00 0.00 0.12 0.00 0.03 0.14 0.00 0.03 0.14 0.01 1.72 3.35 4.26 4.36 6.34 9.03 10.24	Strike Price Ott. Bin 1.65	Dec. Mar. Oct	Puls—Last Nov. Dec. Mar. — 270 — 0.30- 0.30- 0.40- 0.30- 0.35- 0.45- 0.50- 0.90- 2.15- 2.15- 1.80- 4.35- 0.15- 0.50- 7.60- — 16-50_17.50-
PMILABELPHIA SE 5/5 OPTIONS \$12,500 (comb per \$1)		SLIP POINTS OF 1907	PTIBLE	-
Safety Calis Price etc. Nav. Dec. Nav. Gc. 1.575 8.10 8.10 8.10 8.30 8.30 — 1.605 5.60 5.75 6.45 — 1.425 3.10 3.35 — 4.75 — 1.655 1.20 1.70 2.15 2.25 1.45 1.700 — 0.25 0.60 1.65 4.00 1.72 — 0.25 0.60 1.65 4.00 Previous day's open lace Calis 19570 Pres 2012	Per No. Dec. Mar. 0.05 0.05 0.00 0.05 0.00 0.00 0.05 0.00 0.00 0.05 0.00 0.05 0.00 0.05 0.00 0.05 0.0	Strike Dec. California (1942) 0.00 (1942)	5, 0.75 · 0.74 · 0.09 2 0.66 · 0.77 · 0.14 2 0.66 · 0.66 · 0.20 9 · 0.55 · 0.54 · 0.28 7 · 0.37 · 0.35 · 0.57 9 · 0.25 · 0.27 · 0.76 9 · 0.25 · 0.27 · 0.76 9 · 0.25 · 0.27 · 0.76 1 · 0.18 · 0.21 · 0.97 1 · 0.21 · 1.945 Pets 2,070	Price Last Mar. Jon. Sept. 0.25 0.45 0.43 0.33 0.55 0.73 0.42 0.86 0.85 0.54 0.78 0.96 0.67 0.92 1.13 0.82 1.08 1.29 0.99 1.25 1.46 1.18 1.43 1.45
LONDON	CHICAGO			
26-YEAR 12% HOTTOMAL GALT 850,000 32min of 180%	U.S. TREASURY BOND \$360,000 32mis of 100		JAPANESE YEN (IMM) Y125m \$ per Y100	
Cline High Low Pres. 133-04 113-18 112-26 hbreit 112-09 112-29 Estavated whose 5286 (54,000) Previous day's open let. 29,291 (28,840)	No. 78-14 7 No. 77-22 7 June 77-01 7	lgb Law Free, 8-31 76-27 78-21 8-58 76-25 77-29 77-26 75-16 77-28 76-20 6-29 75-12 76-20 76-21 7	Classe Nig Nav. 0.7054 0.71 Nav. 0.7129 0.72 Sept. 0.7280 0.73 Dec. 0.7355	10 0.7048 0.7063 188 0.7121 0.7134 270 0.7210 0.7210
5% MOTIONAL LONG TERM JAPANESE COVT BOND VISION 2000m of 200%	Sept. 74-18 7	5-10 74-06 75-04 4-26 74-07 74-25 4-15 73-18 74-12	DEUTSCHE MARK (1866 DM125,000 \$ per DM	0
Close High Low Prev. 97.15 97.15 98.95 96.10 March 95.65 95.60 95.60 Edinated Volume 24 (CIG) Previous de/s open int, 741 (SIII)	Nov. 73-38 June 73-18	= 740	Clone High Ope. 0.5669 0.56 Mar. 0.5689 0.56 June 0.5689 0.57 Sep. 0.5751 Dec. 0.5807	08 0.5565 0.5573 67 0.5623 0.5628
THREE-MONTH STEPLING	Sim points of 100%		THREE-MONTH EUROPE Sim points of 198%	ILLAR (MINI)
Dec. 09:00 High Low Prev. 09:00 99:50 99:59 99:59 99:59 99:59 99:50 99:5	Dec. 92.05 9 Mar. 92.84 9 Jan. 91.57 9 Sent. 91.54 9	106 Law Prev. 208 91.67 92.11 138 91.45 91.86 1.67 91.26 91.71 1.54 91.15 91.5 1.40 91.17 91.45 — 91.33	Out. 90.54 90.0 Star. 90.54 90.0 Star. 90.39 90.3 Sept. 90.00 90.0 Dec. 89.94 89. June 89.55 89. Sept. 89.45 89. Sept. 89.45 89.	AB 89.95 90.44 25 89.79 90.22 04 89.99 90.00 90 89.40 89.81 273 89.29 89.54 59 89.19 89.49 48 89.00 89.36
FT-6E 100 INDEX S25 per tell leder point	SWISS FRANC (IMM) SPr 125,000 5 per SPr		\$500 times index	
Dec. 233.50 252.30 230.30 233.40 237.90 Extremel visions 271 (2,525)	Close H Dec. 0.6743 0.6 Mar. 0.6835 0.6	lgh Law Prev. 1788 0.6736 0.6749 864 0.6834 0.6817 785 0.6884 0.6867	One. 298.25 307.4 Mer. 301.80 531.1 Am. 305.50 334.4 Sept. 308.50 336.4	68 297.95 305.00 30 301.90 308.65 40 305.40 312.15

payroll giving ishere! that really counts!
payroll giving ishere! that really counts! So remember Dr Bomondo's when you sign.
At Dr Barnardo's 81p in every pound used goes directly
to our work with handicapped
or deprived children, young people, and their families Please help.
For further information contact Peter Ford,
Industrial Appeals Director, Dr Barnardo's, Dept FT1, Tanners Lane, Barldingside,
Essex IG6 1QG. Telephone: 01-550 8822
Perglohunad Charlity No. 218890

NOTICE OF RATE OF INTEREST CREDIT FONCIER DE FRANCE

USB 75,000,000.00 **GUARANTEED FLOATING RATE NOTES DUE 1988**

In accordance with the provision of the interest determination agency agreement between Credit Foncier de France and National Bank of Abu Dhabi, Paris branch, dated as of 18th September 1981. Notice is hereby given that the rate of interest has been fixed at 9.1875 per cent per annum, and that the coupon amount payable on 18.04.88 against coupon No. 13 will be USD 236.07 and such amount has been computed on the actual number of days elapsed (185) divided by 360.

Contracts and Tenders

By: National Bank of Abu Dhabi

Paris Branch

Company Notices

GALACTIC RESOURCES LTD

5% CONVERTIBLE BOND ISSUE 1987-1995 OF SFr 50,000,000

Swiss security number: 666 132 Cedel number: 842 958 Euroclear number: 052 924

According to the loan agreement, GALACTIC RESOURCES LTD calls for early redemption the above mentioned bond issue as of:

October 28, 1987 at par

Payment of interest will cease at this date. As of October 28, 1987, bonds with unmatured coupons can be presented for redemption at the counters of any paying agent mentioned on the bonds. The missing coupons will be deducted from the amount of capital.

The bonds can be converted into shares of GALACTIC RESOURCES LTD until

October 19, 1987

By order: BANQUE INDOSUEZ Swiss Branches

Geneva, October 1987

as Agent and Lender, and BANCO do FOMENTO NACIONAL (Portugal) NOTICE OF REDEMPTION FOMENTO NACIONAL (Portugal) as Co-lender have signed with the Egyptian Companies GENERAL NILE BUS CO for WEST DELTA, MIDDLE DELTA, UPPER EGYPT and EAST DELTA, four Buyer's Credit Agreements in French Francs, each of which is intended to finance both French and Portuguese shares in four contracts signed between RENAULT VEHICULES INDUSTING RENAULT VEHICULES INDUS-

> mentioned Egyptian Companies. These Buyer's Credit Agreements have obtained the guarantee of the Portuguese Credit Assurance Agency "COSEC" for the Portuguese share and the guarantee of "COFACE"

Company Announcement

L. STEPHEN GLYNN and Mr. Jack Melcher bare

BANGLADESH POWER DEVELOPMENT BOARD GREATER DHAKA POWER DISTRIBUTION PROJECT — PHASE IIA The Crown Agents, acting on behalf of The Bangladesh Power Development Board of The Government of Bangladesh, hereby invite tenders for the undermentioned Turnley

TENDER NOTICE

Contract:—
Specification No. 67185—Transmission System extensions comprising 132 KV, 33KV and 11KV substation equipment, overhead lines and underground cables including civil and installation works.

Which, subject to the signature of an exchange of letters between The British and Bangladesh Governments, it is envisaged will be financed by The Overseas Administration of The British Government.

Bangladesh Governments, it is envisaged will be financed by The Overseas Administration of The British Government.

Potential bidders from U. K. contracters, suppliers and manufacturers are advised that
tender documents will be available from 9 am local time on 19, 10.87 for collection from
due office of: Crown Agents, St. Nicholas House, Suiton, Surrey, SM1 IEL.

Each tender document, comprising three volumes, will cost £125 stering and cheques
or banker's drafts should be made payable to Ewbank Precor Limited, clearly
mentioning the Greater Dhaka Power Distribution Project—Phase IIA Tender 67185
and accompanying your request to Crown Agenta for the documents. This money will
not be refundable.

and accompanying your request to Crown Agents for the documents. This money will not be refundable.

The closing date for receipt of tenders at Crown Agents offices is 1 pm local time on 2b January 1988 and no tender received after this time will be considered. Tender documents will be opened on the same day as the tender closing date and all tenderers submitting tenders will be informed of their safe receipt.

Prospective tenderers are advised that any queries to the tender specification shall be addressed to— Ewbank Precer Limited. Consulting Engmeers. Prudential House, North Street, Brighton, Sussex BN1 1RW for the attention of the Assastan Director/ Project Manager—Diaba Phase IIA.

The Turnkey Project work comprises the establishment at an existing site of a new 132/11KV 2 x 28/35 MVA Transformer Feeder substantion at Bangabhabari. A new outdoor 132KV Double Busher switching station at Kamalapur: A new fully switched 132/33KV, 2 x 50/75 MVA and 33/11KV 2 x 20/28 MVA substation at Shyampur together with approximately 15KM double circuit 12KV overhead line and associated PLC protection/communication scheme: 1.5KM double circuit (XLPE or oil fulled) 132 KV and single circuit 11KV underground cable kt.JPE, pilots and 33KV overhead line turn-in works, plus spares, testing equipment and miscellaneous items including all interconnections and interfaces testing, commissioning and putting to work to provide a fully operational, safe and working system with a maintenance period of one year.

INDUSTRIAL PROPERTY

The Financial Times is proposing to publish this Survey on

FRIDAY, NOVEMBER 20 1987

)Amended Date(For full details, contact: JONATHAN WALLIS on 01-236 2825

your usual FT representative FINANCIAL TIMES Europe's Business Newspaper

CURRENCIES, MONEY AND CAPITAL MARKETS

Lack of trade improvement puts pressure on dollar

STORM CLOUDS were seen fresh in dealers minds the resultance in the dollar was inevitable.

In the storm truely hit London, as the storm truely hit London, as the storm truely hit London. The storm truely hit London as the storm truely hit London as the storm truely hit London. The storm truely hit London as the storm truely hit London as

to a virtual halt.

The US trade deficit of \$15.68bn was particularly disappointing. If the dollar was to stand any chance of improvement the deficit man of the Federal Reserve of improvement the deficit needed to be considerably lower than the record \$16.47bn in July. After a reduction in the trade surpluses of Japan and West Ger-

A figure of around \$14.5bn was generally looked for, and with the latest Japanese trade figures seasonal improvement in the US

This is in line with County NatWest's forecast. Stockbrokers, Phillips and Drew are looking for

6610-1.6670 0.25-0.24pm 0.43-0.40pm 1.43-1.33om

0.26-0.24pm 0.44-0.42pm 1.40-1.33pm

73.5 73.5 73.5 73.5 73.4 73.5 73.5 73.5 73.5

0.492616 1.15251 1.45173 43.2250 7.96259 2.07637 2.33591 6.93294 1498.84 164.233 7.40831 1.35.501 7.31212 1.72013 1.59.934

78.5 73.5 73.5 73.5 73.6 73.6

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16.446 48.6531 8.97419 2.33672 2.62711 7.79513 NVA 184.540 8.56129 152.436 8.21779 1.93744 179.827 NVA

£ IN NEW YORK

STERLING INDEX

PITE PITE PITE PITE

CURRENCY RATES

LEAST STATE OF

CURRENCY MOVEMENTS

OTHER CURRENCIES

N/A 2.5560-2.5635 6.2180-6.2320 3.4680-3.4775 3.3820-3,4005

FORWARD RATES

AGAINST STERLING

4383-42005 WA 25:560-25:635 1.5375-1.5408 6-2100-6-2320 3.7500-3.7510 3.8600.34775 2.9910-2.0920 WA 49.70-49.95 6.0855-6.1025 3.4725-3.6735

11111

Oct. 16

Oct. 16

the storm truely hit London, as monday's publication of the storm truely hit London, as Japanese trade figures for gale force winds brought trading September suggested the trend is

nges are for Ecu, 1

EMS EUROPEAN CURRENCY UNIT RATES

POUND SPOT-FORWARD AGAINST THE POUND

2.1565-2.1595 3.364-3.374 62.35-62.45

DOLLAR SPOT-FORWARD AGAINST THE DOLLAR

EURO-CURRENCY INTEREST RATES

US deficit for four consecutive

uon of Mr Alan Greenspan, chair-man of the Federal Reserve ber UK trade figures. This is for a Board, that an extraordinary shift is underway in the imbalance in trade. rent account shortfall of 5500m, and is more pessimistic then the general level of forecasts.

After a reduction in the trade surpluses of Japan and West Germany in August there had been some optimism the US deficit might be as low \$13bn, but this September, while the surplus with the US increased to \$4.9bn from was fading fast even before the US increased to \$4.9bn from the US

+1.04 +0.68 +0.10 -0.35 -0.06 +0.05

and Greenwell Montagu Research.
have both forecast a trade deficit of £800m and a current account shortfall of £200m.

Nomura Research Institutue in London expects deficits of £750m and £150m respectively. One of the most important US statistics next week is likely to be Gross National Product for the third quarter, on Friday. There is a general view

figures of film and £400m

respectively. Elelawort Grieveson Securities

103-205 911-95 N/A N/A N/A

MA MA 13¹-12¹s MA WA MA WA WA

NYA NYA 131-121-NYA NYA NYA NYA

LIFFE LONG GALT FIRMES OFTHINGS
Strike Calb—Lasi
Price Des March Dex March
1914 9499 937 040 045 035
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110 3.35 451 027 133
112 2.06 3.33 042 2.15
114 1.04 2.92 1.66 3.21 4.26
116 0.29 1.66 3.21 4.26
118 0.30 1.08 5.02 5.54
Estimated unione total, Calb 554 Pets 665
Press, day's agen last Calb 30,557 Pets 24,704 Strike Price 1/6 150 150 140 145 170

Dec. 0.00 0.00 0.03 0.34 1.72 100 0.00 0.00 0.00 0.07 0.07

som by 7,651 (7,756)

90.46 90.46 90.46

= = mated values 1,325 (19,251) locs day's open int, 32,751 (32,354) U.S. INCLUSION OF THE PARTY OF Clear High Low 70.17 70.26 77.25 77.25 — — Dec. 70.17 70.26 77.25 ldar, 77.25 Estimated Volume 2,467 (12,530) Previous day's open ins. 6,703 is,225) **CURRENCY FUTURES** POURD-S (FOREIGN EXCHANGE) Spot 1-mm. 3-mil. 6-mil. 12-mill. 1.6635 NVA NVA NVA NVA

MINI-STERLING So per E Chick High Low Prev 16620 1,6630 1,6575 1,6535 1,6595 1,6630 1,6550 1,6510 1,6530 1,6590 1,6530 1,6445 LIFFE-STEELING \$25,000 \$ per f. Close High La 1,6300 -- --1,6350 -- --1,6320 -- --ed volume 0 (21) 5 day's open (nt 346 (231)

0.297 0.493 0.880 70.42 2.967 0.797 1. 641.2 0.640 18.98 0.462 0.769 1.305 109.0 4.627 1.149 1.568 1000. 0 998 28.86

C \$ 0.463 0.778 1.307 110.0 4634 1151 1.562 1002 1. 28.90 8 ft. 1683 2.666 4.088 388.6 16.83 3.902 5.485 3466 3.468 100. Yen per 1,000: French Fr ser 10: Lira per 1,000: Belgian Fr per 100.

Long-term Eurodotians: Two years 104-10 per cent; three years 104-104; per cent; four years 104-204; per cent; free years 104-104; per cent annivel. Short-term rates are sall for US Belters and Japanese You; others, two days' notice.

Oct. 16 E S DM Yes F Pr. S Fr. H Ft. Line C S 8 Pr.

6 1. 1.664 2.995 237.5 10.01 2.405 1.373 2363. 2.159 62.48 9 0.401 1 18010 142.75 6.015 1.494 2.027 1300. 1.290 37.50

0.334 0.555 1. 79.30 3.343 0.830 1.126 722.0 0.721 20.83 4.211 7.004 12.61 1000 42.13 10.46 14.28 9105 9.091 262.7

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MONEY MARKETS

Fears of high bank lending

EXCHANGE CROSS RATES

LONDON'S FINANCIAL markets took a buffering from the weather at the end of last week As gale force winds caused disruption to power supplies and transport systems settlements in the banking system were postponed until today.

This week the market will be hoping not to take any knocks

FT LONDON INTERBANK FOUNG (11 00 a.m. Ocz. 16) 3 mom/s U.S. dollars months U.S. dollars bld 9,2 | affer 9,2

The fronty rates are the arithmetic means, rounded to the nearest one-sisteersh, of the bid and offered rates for \$10m quoted by the market to the reference banks at \$1.00 a.m. each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Baoque Nationale de Paris and Morgan Guaranty Truss.

BANK OF ENGLAND TREASURY BILL TEMPER

	Oct. 16	0a. 7		Oct. Id	Oct. 9
Bills on offer Total of applications Total affoculed Minimum accepted bid Altotiment at manimum level	£100m £652 £100m £97.56 90%	£100m	Top accepted rate of discount Average rate of discount	9.7858%	9.7708%

WEEKLY CHANGE IN WORLD INTEREST RATES

LONDON	Oct. 16	change	NEW YORK	Oct. 16	change
Base rates	10	Unctrd	Prime rates	94	+17
7 day Interbank		+ &	Federal Funds	7.5	Unctiful
3-month Interbank		Uncird	3 Mile. Treasury Bills	7.24	+0.34
Treasury Bill Tender		+0.0150		7.97	+0.32-
Band 1 Bills	97	Unchid	3 Meb. C D	8.90	+0.30
Band 2 Bills	97 97 97	Unch'd	FRANKFURT		
Band 3 Bills	97	Unch'd	Lombard	5.0	UwdY4
Band 4 Sills	9.	Unch'd	One min. Interhank	4.075	+0.05
3 Mth Treasury Bell	974	Uncird	Three month	5.00	+0.375
1 Mets, Bank Bills,	91	Uncit'd		3.00	CICOL
3 Mth. Bank Bills	4	- <u>.</u> .	PARIS		
TOKYO			Intervention Rate	72	Umph'si
One month Bill's	3.78125	Unch'd	One mth. Interbank	8 .	+2.
Three month Balk	3.90525	Linch'd	Three menth	8% 1	+5.
BRUSSELS			MILAN	-	
Dire month			One month	11	(jachfd)
Three month	0,4	15	Three results	1174	-4
		+5		324	_
AMSTERDAM			DUBLIN		
One morth	5,2	4,7	One month	9	Unch'd

UK clearing bank base lending rate 18 per cent since August 7 looking for £3.2ba bank lending, with Nomura, Phillips and Drew and County Natwest expecting £3ba. Greenwell Montaga forecasts £2.8ba and Kleinwort Grieveson £2.5ba.

September retail sales today are expected to rise or fall between 0.5 per cent. An MMS survey suggests a rise of 0.2 per cent.

MONEY RATES **NEW YORK**

cent.
This figure, together with bank lending and the trade data will provide further evidence in the Idebate about overheating in the economy.

The September public sector
borrowing requirement was an
encouraging 235bn on Friday,
against market expectations of
about 2750m, but lacked impact in 94-94 51-9 73 73 3.80-3.90

4,004,15 713-81 34,34 57,54 3,78125 104-114 62-64 87-94

LONDON MONEY RATES

102-104 102-104 103-104 104 10-1 10-1 10-1 10-2 93-74 72-74 73-74 101, 101, 101, 101, 104-105 104-105 105 105 % ሚ 91-92 91-92 91-91 91-91 91-91 91-91 81-50 61-61 71-62 91, 91 Sterling COs.
Local Authority Deps.
Local Authority Bonds
Discount Mirt Deps. 95 10½ 10½ 10 10 10 125-7.20 711-72 8-73 8-73 8-73

UNION de BANQUES ARABES et FRANCAISES - U.B.A.F.

TRIELS - R.V.I. and the abo

for the french share.

AND PREPAYMENT (EURATOM) ECU 50,000,000 1212% 1982/1990 Bonds

On October 5, 1987 Bands for the principle amount of ECU 12,500,000 have been drawn in the presence of a Rotary Public for redespite at per on Rovember 25, 1987.
The following Bonds will be redespitable chaps for a Rovember 25, 1988 and following statement. 4193 to 16692 mcL

hi accordance with the Terms and Committeen, EURATON will rerthermore propay at 1004 % of their principal amount, on Hormorier 25, 1977, at the Bonds recontaining switchesting after the above-nice/flound drawing (Le. ECS 37,500,000 withched amount) Payment of Interest and promism, if applicable minuryement of principal still be made is not with the terms and complitions of the

pross, letters will come to accure on the bonds as from Royamber 25, 1987.

Lumbburg, October 19, 1987.

THE FISCAL AGENT KREDIETBANK

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The \$109bn world telecommunications industry has seen significant changes in the last 12 months as

the balance of power among the major networks and manufacturers has shifted. Furthermore.

competition among suppliers in many fast-growing equipment sectors is intensifying, as Terry Dodsworth, industrial Editor, reports here.

Expanding on all fronts

telecommunications industry brought about by the application of electronics has opened up prospects which would have seemed extraordinary to people in the business only 20 years

ugo: Communication networks are now at the centre of the automanow at the centre of the automa-tion process, wherever it is go-ing on, from the office to the fac-tory floor; the humble voice telephone line is being steadily evolved into an instrument for carrying data and pictures as well, and as components grow-smaller, the prospect of mobile telephones for the mass market is only just around the corner. This flowering of innovative technology and applications has inevitably strained the tradi-lional structure of the industry to breaking point. Equipment suppliers have been forced to redesign their products at great - and sometimes crippling - expense. New information providers have burst upon the scene. often clashing with the tele-

vices themselves. And users have begun to press for even more rapid change, anxious to mould a cheaper, uniform com-munications system out of the national fieldoms which cur-rently run the system.

The pressures exerted by these new conditions in the market have led to a number of significant changes in the last

☐ Alcatel, the French equip-ment group, pulled off a \$1.3bn deal to acquire most of the European activities of ITT, the US conglomerate. With this one agreement, Alcatel propelled liself into the No 2 position in the world league of telecommu-nications manufacturers, second only to American Tele-phone and Telegraph, and with a strong position in France and West Germany.

☐ Ericsson, the Swedish producer, won a three-cornered fight to take over Compagnie Generale de Constructions Telephoniques (CGCT), a French phone network operators who equipment group threatened would like to control these ser- with extinction without the



technical support of a larger,

partner.

In Italy, the country's two leading telecommunications equipment manufacturers, Italtel and Telettra, are being brought together to form Telit. Ericsson has been in serious negotiations to try and forge closer links with this new Italian aroun.

group.

The first large-scale trade dispute in the industry broke out over the future of CGCT, with both the American and West German Governments championing their own national equipment suppliers. ☐ A second trade row erupted

over Japanese opposition to a bid by Cable and Wireless, the UK-based international net-work operator, to take a stake in a new overseas service company in Tokyo.

☐ The European Commission

put forward proposals for great-

er competition in the supply of communications equipment and data services in the Community. West Germany and France began to move in this direction, although with plans that remain less ambitious than that remain less ambitious than the programme already enacted

☐ Celiular telephone systems in several parts of the world, particularly the US, UK and Scandinavia continued to expand rapidly; and European governments came up with a co-ordinated plan for a common new digital system in the region by 1992 - the first such co-opera-tive venture in the industry. ☐ The British and Japanese

ing all of these incidents is that cost-related structure of tariffs, the balance of power which has and for greater freedom in con-

Governments adopted plans allowing virtually total freedom overnments adopted plans al-pendent on telecommunica-pring virtually total freedom tions, it has begun to look for or the development of data ser-ices over the telephone. ways of reducing its expendi-ture on telephone systems. It has started to lobby for a more for the development of data ser-

necting the kind of equipment it

given the industry a long period of stability is now shifting. His-torically, the decisions deter-mining the future of telecom-For governments, there are both positives and negatives in munications were made within the big, monopolistic network responding to these demands. On the negative side, cost-based operators. It was these organi-sations, usually government-owned, and working in a cosy relationship with equipment manufacturers, that decided when people would receive a telephone, and what sort it tariffing means higher charges for residential customers to balance the cheaper rates to busiin equipment supplies may also mean penalising large domestic manufacturing companies with would be.
In recent years, however, users have been able to mount an increasingly effective challenge

workforces built up on con-tracts to the telephone network. Set against that is the positive economic effect of reducing to the power of these institu-tions. As the corporate sector in general has become more de-pendent on telecommunicacosts for the corporate sector as a whole. This is such an intangible gain that it has not been easy to persuade governments that it is worth pursuing; but lit-

winning
On the equipment side, the
motivation for change has been

The impact of liberalisation. The industry's changing structure Trade disputes rumble on 2

INTERNATIONAL REPORTS The European scene. West Germany and ministerial profile 4 The UK: British Telecom, A good

Telecommunications France: changes on all fronts

Profile Alcatel, Profile, Gerard Longuet GEC and Plessey links in switching gear. Profile: Prof Bryan Carsberg of Oftel. Swedish developments 8

Manufacturing profile:Ericsson of Sweden. Developments in Norway and Denmark.

Progress in Finland, Italy: the Telett affair, Profile, Mrs Marisa Bellisano.

Developments in Belgium. The Netherlands. 12

Austrian telecommunications. Advances in Ireland. Russia: big spending programme Poland. Europe's poorest system. Portugal, significant advances, Data on the European marketplace 14

The US: progress among the regional companies. The US: cost factors in long distance services.

Japanese suppliers eye the US market. Prospects for European suppliers in the US. suppliers in the US.

the economics of production caused by the switch over to electronics. Research and de-velopment costs have escalated to such an extent that companies need access to larger mar-kets to offset their investments. Governments have been reluctant to allow telecommunications manufacturing capacity to disappear entirely, because it is still regarded both as a strategic industry and a technology leader. But they have been forced to accept the need for rationalistion.

Change has been slower on the network operator side, part-ly because of the inherent diffi-culties of altering the structure of large bureaucracies running complex systems that cannot be easily reorganised. Neverthe-less, the US, UK and Japan have all taken radical steps to inject competition into the industry by

licensing new operators.
Initially, at least, these programmes have had the desired effect of bringing down prices for business customers. In addition, the greater freedom allowed to launch new services, The US, profile of AT&T, Profile M

Canadian telecommunications Proble Northern Telecom

telecommunications Manufacturing scene in Japan. Marketing developments in Japan

Japan: controversial expansion. Manufacturer's profile. Mr Shinto of

India: still a long way to go. China rapid progress. The world's top 50 telecom markets 24

EQUIPMENT AND SERVICES Switches: an uncertain future. Packet switches: aiming for error-free networks.

Transmission equipment ISDN:new field trials under way 27 Telephone handset developments Private exchange systems. 28

Satellite business services Cellular telephone networks. Impact of converging technologies

Cable television companies. Satellites: business applications.

Value-added Developments telecommunications.

Ci Pictures by Trevor Humphries, Ashley Ashwood, Alan Harper; graphics by Bob Hutchison, Leighton Morris with page one drawing by Tilly Northedge of Grundy and Northedge.

innovation in these liberalising countries. They all have much more advanced systems in these fields than countries that have licensing policies - a process that is now bringing competi-tive pressure on the slower-acting countries and forcing them to implement reforms.

Although these changes are causing inevitable problems of adjustment, the industry as a whole can hardly claim that it is in crisis. The telecommunica-tions sector is still growing rap-idly, with network operators such as British Telecom turning in regular revenue gains of 11 per cent or more a year, and some forecasts suggesting a compound annual rate in world expenditure on telecommunications of around 10 per cent to the end of the century. In this environment, most of the big equipment companies are experiencing healthy margins, and many of them, notably Siemens in West Germany, are flush with cash.

As industry moves onto more of a global footing, telecommunications traffic is rising fast.



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Carlson, the Plessey subsidiary. You can see Plessey - linking the world.



Conflicting views on competition

TWO CAMPS appear to be those areas where competition emerging in the world of tele-communications. The camps are Ex-monopolies have tended to Ex-monopoly of the Direction General Ex-monopolies have tended to Ex-monopoly of the Direction General Ex-monopolies have tended to the control of the Direction General Ex-monopolies have tended to the control of the Direction General Ex-monopolies have tended to the control of the Direction General Ex-monopolies have tended to the control of the Direction General Ex-monopolies have tended to the control of the cont emerging in the world of tele-communications. The camps are defined along the dimension of liberalization. The composition of improve their performance liberalization. The composition of improve their performance liberalisation - the opening up most in areas where they have faced the greatest challenge. In

In one camp are the radicals: countries which have pushed competition into the heart of their networks. The US, Japan and the UK stand virtually alone as members of this group.

conservatives: countries which are determined to maintain the state-owned monopoly. West
Germany has recently signalled that it is happy to remain within the corresponding to lose.

This distinction breaks down in places. The radicals still have large swathes of activities which are effectively monopolies. Conversely, the conserva-tives have had to bow to pressures for greater competition in areas which were previously

Yet - at least for the moment it does correspond to a real ideological and political divide. The more cautious telecommu-nications administrations have had time to observe the experi-ence of the pioneers of liberal-isation and are not sure they

want to follow suit.

In the US, competition in the long distance market is now intense, even though American Telephone and Telegraph re-tains its overwhelmingly dominant position, and similar com-petition is being encouraged in international connections.

In the UK, Mercury Communieations has established its basic network, begun to challenge British Telecom in key growth areas such as the City, signed up its first residential customers and pushed out into interna-tional switched traffic.

Last month Japan moved a long way to accept - admittedly after only the most intense diplomatic pressure - that its international telecommunications monopoly, Kokusai Denshin Denwa (KDD), should face a powerful new competitor. Lead-ing roles are being taken in this consortium by two foreign telecommunications companies, Cable and Wireless of the UK and Pacific Telesis of the US. Japan has already introduced new companies to challenge NTI in its domestic market.

Wherever liberalisation has happened, it has acted as the cutting edge of the telecommunications revolution. Change has come fastest to the previ-

24

40

Britain, for instance, BT has been sharpest in improving its service to big businesses and in the supply of equipment - pre-cisely where it is most under threat from the new competi-The other camp is made up of tion. By contrast, residential customers, nearly all of whom are still locked into BT, have

> which are liberalising most quickly are also tending to lose market share in equipment supply by exposing their domestic companies to new competitors at home without compensatory opportunities overseas. Liber-alisation has forced telephone line with costs, which has often meant the politically sensitive process of increasing charges for services most used by resi-dential customers, while hold-

ing back those for services most important to businesses. So the aftermath of liberalisaso the altermath of liberalisa-tion can be distinctly uncom-fortable, as can be attested by BT- the subject this summer of relentless attacks in the British media. These pressures have fu-elled the fears of the conservatives who are hesitant about liberalisation

They seem to have won the day in West Germany. An official commission recommended widely regarded as the most conservative administration in Europe, should retain its grip on network provision and the telephone service. The monopoly, to be renamed Telekom, would also be free to compete in those areas which are being opened up to competition.

The liberals on the commission pushing for greater change seem to have lost out to political fears that deregulating the Bun-despost could mean postal charges going up, the telephone service becoming more busi-ness-oriented and a loss of jobs in the Bundespost's 500,000strong empire.

France is poised in an interesting position, with no defini-tive statement as to where it will come down between the two camps. Gerard Longuet. France's dynamic minister, of posts and telecommunications, has made much of his wish to open up French telecommuni-cations. A draft Bill has been prepared which, in theory,

₩world telecommunications; equipment market

Western Europe

US

Asla

Other countries

the French telecommunications authority.

However, the government appears unlikely to push the legis-lation through parliament until after next spring's presidential elections. Nor is there much sign that the French government has any real intention of ending the DGT's monopoly of the basic phone network.

Yet even those administrations which have fewer these tions which have fought off en-croachments into their core pet

works are facing greater competition elsewhere, Last month France opened up its market for value added ser-vices, the emerging business communications systems which marry voice and data traffic. alisation has forced telephone This will create important op-companies to bring charges into portunities for large US data companies, such as IBM, Elec-tronic Data Systems, Geisco and Digitial Equipment Corpora-tion, as well as for French com-panies such as Bull.

Many countries, including the smaller European ones such as the Netherlands, are intending to liberalise their markets for terminal equipment. Powerful European companies, such as Philips of the Netherlands, are now planning on the assump-tion that the next decade will see the complete deregulation of terminal squipment in Eu-

Moreover, commercial pressures are emerging on those re-luctant to liberalise. Value added services are an example. Free in the US and the uK, they are developing reasonably well in both countries. In West Germany, by contrast, the high charges slapped on leased lines by the monopoly Bundespost has inhibited their growth. The European Commission is also setting involved with the also getting involved, with the publication in June of a Green Paper proposing the complete liberalisation of the supply of value added services and termi-

value actual services and terminal equipment, though the Green Paper steered clear of the core network. In the final analysis, although telecommunications will remain peculiarly susceptible to swings in political fashion, liberalisation as a trend seems unstoppeble - if on-ly for technological reasons. Spiralling development costs are forcing manufacturers into international alliances to spread the burden. The inevita-ble consequence is a demand for much greater access to pre-viously closed markets.

0 2 4 6 8 10 12

5 %

7 %

tural upheaval which is forcing many of its participants to seek mutual support, withdraw from certain lines of business or Switch

story of corporate alliance entrants from other sectors.

gling to survive in areas of in-tense competition.

demand patterns.

This is particularly true in

squeezed by fierce price com-petition and the mounting costs petition and the mounting costs of developing and constantly up-dating digital exchanges.

These pressures are at their most acute in Western Europe, where monopoly procurement practices have kept markets and the supplier industry - fragmented along national lines. As a consequence, manufacturers have found it a struggle to achieve the increasingly large economies of scale needed to survive in a sector which is bur-

economies of scale needed to survive in a sector which is bur-dened with excess capacity. The inevitable rationalisation process, though arguably long overdue, is now under way. In France, the state-owned CGE group absorbed the telecommu-nications activities of its nation-

continuing to support its new-ly-developed System 12 family was too large to bear alone. Control of CGCT, another French manufacturer, recently Figures in \$bn. Annual growth (1985-1990), at 5.5% a year, at current prices

> out of public switching almost completely, while Philips of the Netherlands decided to abandon plans to develop its own-digital exchange and opt in-stead for a joint venture with American Telephone and Tele-

graph.
Siemens of West Germany has formed a joint equipment ven-ture with GTE of the US, while in Italy, a merger is planned beThe industry's changing structure

Massive upheavals under way

IT IS at first sight paredoxical that telecommunications, an industry basking in the prospect of exuberant growth, should be in the midst of a massive struc even disappear from the scene Transmission

In the past few years, the in- Customer premises dustry's development worldwide has been increasingly a Data communications story of corporate annances, joint ventures, mergers and takeovers. This flurry of deals has brought together in a variety of combinations both companies which have been long-stublished in the mainstream stations. established in the mainstream of telecommunications and new Telephone sets &

key systems A number of overlapping factors is responsible for the kaleidoscopic realignment now under way. Some have to do with efforts by companies to position the median better to the homeology better to the second industry has subsidiary of Fiat. industry has accelerated sharply in the past few weeks, with two major deals announced. themselves better to take advantage of market opportuni-ties. However, others reflect the mounting pressures faced by manufacturers which are strug-The first is an agreement be-tween the General Electric Company and Plessey, which jointly make System X digital exchanges, to merge their tele-communications businesses in a

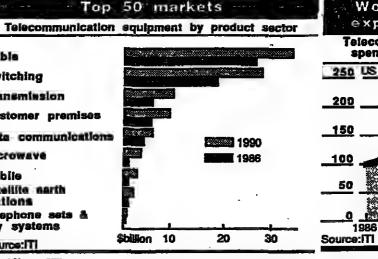
Though telecommunications is being revolutionised by new technologies such as microelectechnologies such as microelec-tronics and fibre optics, some parts of it are also showing dis-tinct signs of maturity. Indeed, rapid technological change has in some instances hastened this process by drastically altering traditional cost structures and

public switching. Long regarded as the industry's 'core' busied as the industry's core outsi-ness, its long-term growth pros-pects appear now relatively unexciting, due partly to changes in network design techniques and the growth of alter-native transmission media such as astellite communications.

Moreover, manufacturers' profit margins are being

mications activities of its national rival, Thomson, in the early 260s. "Last year, in one of the industry's largest deals in history, CGE also acquired a controlling interest in the European busi-nesses of ITT of the US, which nesses of ITT of the US, which had concluded that the cost of

in Italy, a merger is planned beThe AT&T-Olivetti link-up is cro-electronic technology has
tween the country's two main
equipment makers, the stateowned Italtel and Teletira, a bridges between the telecomengineering and marketing re-



unications and computing in-The pace of change in the UK dustries. A few major compa-industry has accelerated sharp-ly in the past few weeks, with two major deals announced. Germany and NEC of Japan, group both activities under one roof, along with semiconductor manufacturing. But others have found it necessary to devise so-lutions for themselves. IBM of the US, the world's largest computer maker, moved into telecommunications in the

5050 joint venture. The second to telecommunications in the is the sale by ITT of its residual 1970s by helping to set up Satellite Business Systems (SBS), a com of Canada, which now owns sophisticated network designed 27.8 per cent of the British company.

In many takeovers and merginal statements of the second control of the British company. ers, particularly cross-frontier a leading US manufacturer of deals, the prospect of gaining office communications systems access to new markets has been and in 1984 tried to establish a an important motive for one or joint venture in data networks both partners, ITT's biggest at-

both partners. ITT's biggest attraction for CGE was its entrenched position as a supplier in britain, STC sought to tactrenched position as a supplier in the country stee in many European countries, while AT&T hoped that Philips' worldwide marketing with Honeywell and other US network would compensate for its own lack of international suppliers, while Northern Telecom of Canada also purchased some small US terminal compensate comes.

It is still too early to judge some small US terminal compa-how far these hopes will be ful-filled. The advantages which mergers offer in terms of wider ances have proven exceptional-In practice, these types of allimergers offer in terms of wider ances have proven exceptional-market spread must be weighed by tricky to manage and some against the very considerable times costly failures. The big challengs of coping with different product ranges and management systems. Telecommunications network operators cannot be easily persuaded to switch from one brand of exchange to another unless they happen to be on the verge of a major respectively. The relationship with folm has also proved problematic, equipment programme. Sieequipment programme. Sie-while IBM's plan to team up mens and GTE discovered this with BT was vetoed by the UK when the latter's US customers government.

baulked at a proposal to phase L.M. Ealesson and Northern

baulked at a proposal to phase out manufacture of GTE equipment and replace it with Siement and replace it with Siement and replace it with Siement products.

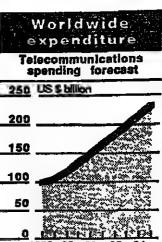
Hence it is often necessary after failing to make much impact to the merger for companies to in the world of computing ICL, continue providing upgrades for its part, has enjoyed to the prove extremely costly over entitle long term. This is a task confronting CGE, which has three original grand plans to integrate the two sides of the group's business have made on-

different exchange ramilies to support.

AT&T and Philips, for their part, have the advantage of a unfield product range. However, they have found it difficult so far to make a big breakthrough into any of Europe's vices. These are areas in which larger national markets.

AT&T's 25 per cent interest in Italian office products maker Olivetti, has also produced plementary skills has led it furmixed results for the US company, which had originally hoped that Olivetti would provide a distribution channel for its products in Europe. To date, best of the deal, using AT&T to sell its personal computers in the US.

The AT&TOlivetti link-up is cro-electronic technology has



main very different and the 'cul tures' of the two sectors have of-ten proved difficult to mix. In practice, the much-heralded convergence may really be more of a collision

1986 88 90 92 94

Another common pitfall has been inaccurate forecasting of technological trends. The SBS saga is doubly instructive on this count. In designing the project, IBM assumed that business computing would increas-ingly be concentrated in a relatively few large centres which would need to exchange vast volumes of data at high speed. In fact, precisely the reverse in fact, precisely the reverse has proved the case, due to the growth of distributed data pro-cessing and personal comput-

condly, SBS was planned at a time when high-capacity long distance digital transmission espacity was scarce and very expensive. Since then, a rush to instal competing satellite and optical fibre systems in the US has lad to a capacity glut and

tumbling prices.

One of the most interesting features of the structural changes in the telecommunications industry is the way in which they have inverted the order of many of the traditional relationships between its con-stituent parts. It used to be that customers, suppliers and com-petitors all knew where they stood in relation to each other.
Now, however, the pattern
has been blurred by regulatory,
economic and technological developments which have conspired to lower barriers to en-try. Former allies now find themselves competing for the same markets, while erstwhile

In the US, the regulatory wall which once segregated AT&T and IBM. both traditionally large customers of each other, has now been demolished, freeing them to compete directly on each others turk British Telegraph with the sight to recover sized. com gained the right to manufacture when it was privatised three years ago, profoundly unment suppliers' which bitterly opposed BT's acquisition of a majority interest in Mitel, a Canadian private exchange maker.

competitors are forging part-

At another level, there have been growing tensions between large corporate customers and telecommunications network operators. The former are in some cases keen to provide for themselves some of the trans-mission links and services supplied by the latter.

Indeed, the potential compet-tive battleground extends even further, spilling over into other industries which depend vitally on telecommunications. Dere-gulation of financial markets and the growing use of electron-ic trading systems are rapidly breaking down sectoral barri-

coming technically possible for banks, business information services companies such as Reuters and a wide variety of other players to compete to of-fer electronically transactional services once conducted on Stock Exchange floors.

The European Community has launched Esprit, a programme of subsidised 'pre-competitive' research involving leading Euopean telecommunications and electronics companies, and Race, a project intended to pave the way for the development of advanced broadband

These projects are intended to fulfil several objectives. First, to spread the cost of re-search and development by get-

ting companies to pool their ef-forts; second, to speed the development of common technical standards; and third, to encal standards; and third, to encourage European companies to break down the psychological barriers which have long caused them to view each other with hostility and suspicion.

In parallel, some of the companies involved have established cooperative links of their own. CGE, Siemens, Italiei and Eritain's Plassers are for in-

can go in solving some or the in-dustry's other, and most press-ing problems. Attempts by com-panies such as CGE, Plessey and Italiel to evolve from co-operation at a technical level towards joint commercial strat-eries have so for made no real

nowever, that none of the vari-ous types of corporate alliances and combinations which have been tried to date in different parts of the world is without its drawbacks, and that in some cases these may well outweigh the benefits. Given the relentless pressure on the industry to adapt to the changes crowding in on it, it seems likely that trial and error will continue to play a big part in corporate strategies in this area for a good while yet.

Guy de Jonquieres International Business Editor

Global expansion

Source: Siemens

40 %

14 %

22 %

The big financial centres in London. New York and Tokyo have seen particularly strong growth; but data traffic in the big multinational industrial groups is increasing as well, generating demand for new capacity both on land and at sea: as 3 result at least two new fibre optic cubics capable of carrying up to eight times as much traffic each as the previous generation of coaxial lines, are being planned to cross both oceans. In addition, the changing pattern of demand will present a range of new challenges. First of all, the manufacturers of switching systems are faced with a sleady diversion of investment towards transmission products, which will be used to some extent as substitutes for switches. Investment in prod-

munciations, as developing countries overtake the investment of the current top 50 markets. According to forecasts by Telecommunications Industry Research, the top 50 countries will spend almost 53 per cent of of \$243bn in 1995 - a figure which will have risen from \$109bn in 1987. But by the year 2000, they will be down to only about 40 per cent of a total

the trend which the forecast un-

extent as substitutes for services of this kind could be an switches. Investment in prod- important area of expansion in switches. Investment in progucts such as multiplexers that
will spearhead this change is alwill spearhead this change is already beginning to build up.
Second, there is likely to be a
significant switch in the pattern
of world spending on telecommunciations. as developing
Important area of expansion in
the effort to promote higher-value effort to promote higher-valto promote higher-valto prodthe effort to promote higher-valto prodthe effort to promote higher-valto promote higher

Indeed, some of these large American-based international groups, such as IBM and Geisco, the General Electric subsidiary, are beginning to look as though the may emerge as dominant figures in the information marthe world's equipment budget ket, playing to their strengths of

nications and data processing This is an interesting footnote to the battle over equipment markets, where US groups have While such glimpses into the found it difficult to expand crystal ball could be deceptive, overseas: it looks as though American companies are on the derlines is already discernible other hand moving themselves into position to dominate the inmunications sector is beginning formation business, one of the of the biggest markets for new expected to flourish over the

cross-border competence, and knowledge of both telecommu-

lines, and there are ambitious next quarter of a century.

UNTIL a year of so ago, serious products has sinceallowed trade disputes over the telecommunications sector would move into more sophisticated have seemed one of the more products as well. unlikely events to mar the dip-lomatic calendar. But not any gy towards electronics-based nonzer calendar. But not any gy towards electronics-based more. In a series of bruising inproducts has pushed up the cost ternational rows, telecommunity of research and development cations has been pushed unwhile lowering the unit prices equivocally onto the agenda as of the products being sold. The one of the industries over which effect of this shift on the economy of the product of the product of the economy of the eco

US \$ 140M 2.94

Historically, telecommunica-tions has raised little excite-ment in the trade arena be-cause of its structure as an industry organized on actional ment in the trade arena petries because of the need to racause of its structure as an
industry organised on astional
lines. In the developed countries, equipment supplicat were
prouped around national, generally state-owned, network operally state-owned, network operally it a core relationship of
operators to allow the connecterators in a cosy relationship of interdependence.

switches controlling the network, effectively barred.

This structure has begun to change for a number of reasons.

First, new producers have emerged in the third world with the ability to take on Western suppliers on their own terms. Their products were initially successful in low-technology, large volume markets such as telephone handsets, where wave of liberalisation sweeping veloping countries has been their modest manufacturing across the Western industribased largely on simple, lowester in pricing. But the easy wards more open markets, led Japan, on the other hand, has portability of high technology by the US and UK, but tentative managed an even more dramat-

interdependence.

Products were developed for these needs. In operational terms, large international compossible, sold to third world users as well. Sales of equipment between the developed countries was limited, and in some sensitive areas, such as main switches controlling the needs. operators to allow the connec-While this objective is often thwarted by the telephone com-panies' insistence on supplying only their own pre-determined equipment, pressure is increas-

ing for manufacturers to be able to buy whatever equipment they

dramatic shift in the pattern of changes, microwave equip-telecommunications trade. The and satellite earth stations. US, in particular, has seen an extraordinary alteration in its trading balance, switching from a surplus of \$138m on equip-ment sales in 1980 to a deficit of \$1.2bn in 1985, according to US Department of Commerce fig-

The UK, the other of the two most liberalized markets in the West, has also gone through the same kind of experience, swinging from a surplus of \$40m in 1980 to a deficit of \$110m two years ago. The UK imbalance increased again sharply last year - to \$272m - and is expected to reach just under \$300m this

Most other European countries have managed modest increases in their trading balances during the 1980s, but the big winners from the increasing US propensity to import have been located in the Far East. Taiwan and Hong Kong, for example, were both in substantial delicit in 1980 - to the tune of \$15m and \$65m respectively. \$15m and \$65m respectively -but within five years had managed to build up to surpluses of \$160m and \$61m.

The success of these two de-

and satellite earth stations.

In the last 12 months or so, a sudden spate of trade disputes has underscored the tensions caused by these shifts in imports and exports. The most celebrated of these was the struggle over the sale of CGCT, the French equipment manufacture.

In a three-cornered fight

US authorities argued that the US authorities argued that the French group should have been acquired by American Telephone and Telegraph, while the West German Government weighed in on behalf of Siemens, and Ericsson of Sweden eventually stole in and pulled off the deal. In the course of the contest, the issue of the US market was brought into play as well with the American authorwell, with the American authorities threatening action against Siemens if the Europeans continued to block AT&T.

The other big battle centered on the attempt by Cable and Wireless, the UK's international telephone network operator, to acquire a stake in the Japanese market as it opened its in-ternational communications to new competitors. C and W now appears to have won this fight, gaining an entree to a foreign market for services provision rather than equipment

Since these disputes were re-

Another issue is also emerg-ing for Western producers on the trade front: how to tackle the redirection of spending on telecommunications networks to the developing world, the Eastern bloc and China. According to a forecast from Telecommunications Industry Re-search, the world equipment market will more than triple over the next 13 years to \$380bm by the year 2000, but by that time the developing countries will overtake the spending of the current top 50 countries. Russia, says TIR, has already surpassed Japan as the world's second largest purchaser of telecommunications equip-

Since these disputes were re-solved, the temperature has al-doubtedly be cushioned by the

At the same time, other pres-sures are driving telecommunications companies which have long viewed each other as rivals to collaborate. This trend has to date been most advanced in

western Europe, where the last few years have seen the emer-gence of several joint projects, both officially-sponsored and initiated directly by industry.

networks which also includes national telecommunications dministrations.

Britain's Plessey are, for in-stance, working jointly to develop some of the technology used in digital exchange systems. The growth of collaboration has undoubtedly contributed to a change in the industrial climate in Europe, encouraging telecommunications suppliers to find areas of common interest. It is also starting to produce some practical results in stan-dardisation : one example is the recent agreement by European countries on common technica specifications for a new digital mobile communications network, to enter service in the

However, it is questionable how much further collaboration can go in solving some of the intowards joint commercial stravegies have so far made no real progress. The obstacles have been partly differences in management objectives and priorities and partly the perpetuation of closed national procurement

policies. Beyond that, it is doubtful whether collaboration alone will be enough to enable com-panies to resist the continuing pressures for rationalisation, which many experts believe will thin out the ranks of the international industry still fur-ther in years to come.

The record to date suggests, however, that none of the vari-

International trade

The tensions continue

50/50 joint venture. The second

governments are prepared to nomics of production has been take up the cudgels to defend to force manufacters to look for a broader sales base for their products; and it has put equal pressure on protectionist coun-tries because of the need to ra-

Fourth, the gates to a more open trading environment have been further unlocked by the

well in life

ly followed elsewhere, has allowed companies to move more easily, if not with total freedom, beyond their national boundaries.

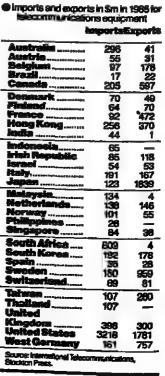
These changes have led to a discontinuation of the control microwave equipment

French equipment manufactur-

so gone down on the diplomatic front. The US and Europe are meeting more regularly to discuss their disagreements, and the rising value of the yen has begun to feed through into reducing the huge Japanese surplus on its US trade.

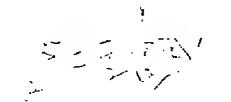
Even so, the battle for markets shows no signs of alleviating, and Europe has now begun to campaign against the size of its deficit with Japan: suggestions that the European Community might consider protectionist measures surfaced recently when Mr Michel Carpentier, director general of telecommunications at the EC. telecommunications at the EC, said that the region's imports of Japanese equipment had jumped from ECU 20m three years ago to ECU 883m in 1986.





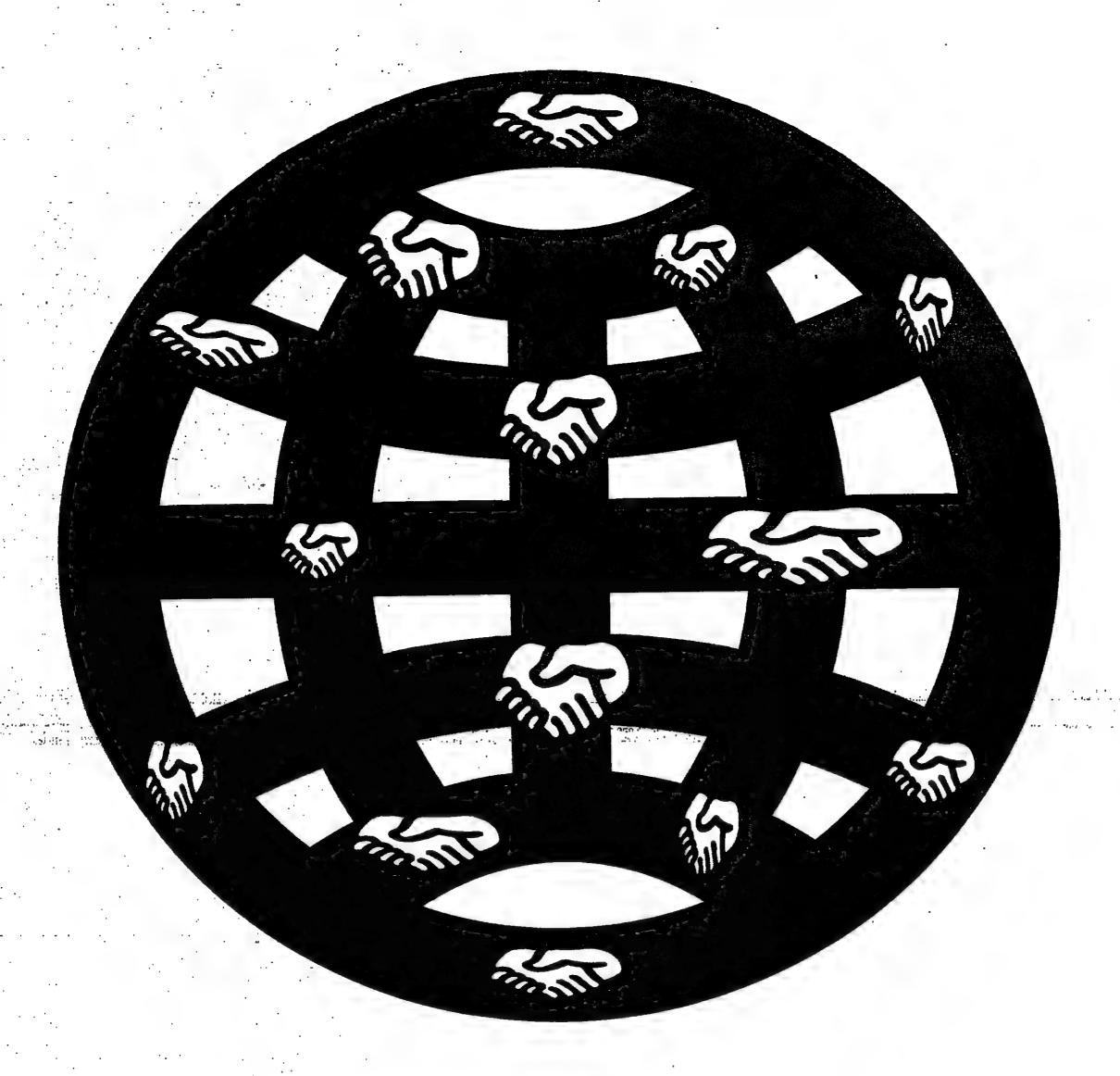
continuing strong expansion in the overall market, which would remain one of the most dynamic sectors of world indus-try if the forecasts are fulfilled. But, as TIR points out, the pat-tern of spending carries finan-cial risks for Western nations, which are likely to be more ex-posed in this part of the world posed in this part of the world to country-by-country financial arrangements, and the tricky deals associated with very

ong-term supplier credits. Teny Dedsworth



- 1

Fig. 177.



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European Commission is due to complete a round of consultations on its telecommunications green paper, published in June, whose aim was to give a push to the process of liberalisation, stimulate new services and cre-

stimulate new services and cre-ate a large unified home market for equipment manufacturers in the Community.

Commission officials are pleasantly surprised by the de-gree of support they have re-ceived for their proposals from the telecoms administrations and equipment manufacturers in Furning Event the Rundes. in Europe. Even the Bundes-post, the West Germany PTT. widely regarded as the most conservative of the larger ad-ministrations, has signalled its

approval.
Cynics would say that this just shows how timid the green pa-per really was. Although it proposed the liberalisation of the supply of value added services and of all terminal equipment, except possibly the first tele-phone, it steered well clear of attacking the monopoly of phone services still firmly in place in most European coun-

tion in the green paper which has stirred up controversy during the summer months of con-sultation was the suggestion that small satellite receivers should be treated as terminal equipment and liberalised too. The Commission has been told firmly by some respondents that this could encourage new satel-lite services to bypass the tele-phone administrations, thereby

nopoly.
With this main exception,
Commission officials are optimistic that they can begin the
long process of translating the green paper's recommenda-tions into draft directives towards the end of this year or early next. Indeed, some of as the creation of a European Telecommunications Standards

Institute - are already in hand.

The best intentions of the Commission's officials may still fall foul of the notorious delays to which EC proposals are subject. But even without a produce Euro-bureaucrats the face

of European telecommunica-tions is changing rapidly. This is perhaps most evident in the realm of the equipment manufacturers, where the past year has seen the clinching of a number of key deals in Furope number of key deals in Europe, as the Continent's equipment manufacturers huddle together to spread spiralling develop-ment costs and to gain access to wider markets in the process of liberalisation.

By far the biggest such deal win CGCT.

was the acquisition of a controlling stake in the equipment inerview of a controlling stake in

Europe

A new spirit to confound the cynics



to accept either of the two early contenders for CGCT - Siemens, of West Germany and a joint venture between AT&T and Philips of Netherlands. To have accepted one of these could

accepted one of these could have resulted in trade friction

Earlier this month, the UK in-dustry, long regarded as one of the weaker brethren among the world-ranking suppliers, got in-to the restructuring act when the General Electric Company and Plesses announced a merci-

the General Electric Company and Plessey announced a merg-er of all their equipment inter-

This will create a joint venture company with annual sales of more than £1.2bn, though the great majority of these will be in Britain - a testament to the UE's relative failure in world

country of the other.

ier: in charge of the Co

terests of ITT of the US by Alca-tel of France, in one bound creating a company with annual sales of about \$12bn, second on-by to American Telephone and

relegraph on the world scene.
Alcatel's management has been busy this year integrating the two group's operations, though it now seems clear that Alcatel will keep at least for the time being its two public exchanges - Alcatel's E-10 switch and ITT's System 12.

The pert piece of the Europe

The next piece of the Europe-an jigsaw fell into place in April when Ericsson of Sweden won the bitter battle for control of Compagnie Generale de Con-struction Telephoniques (CGCT), the French public ex-change supplier which con-trolled about 16 per cent of the

French market.

Ericsson's strong technology, flexibility and sure-footed knowledge of world markets - qualities which have helped build it into one of the giants of the world telecommunication market on the back of its small tractive partner once they have home base in Sweden - helped it win CGCT.

We shorten distances.

manufacturing through the creation of a new company Telit out of Italiel, its big switch manufacturer, and Telettra, the equipment manufacturer controlled by Fiat.

Once these deals are complete, the UK and Italy will have powerful - if not quite as big-companies to put alongside the giants of the European industry: Alcatel, Siemens and Ericsson. The interesting point to watch over the next year will be whether further alliances emerge between this core emerge between this core

Meanwhile, the process of liberalisation among the operators is set to continue, though at a different pace and to a different extent in each country.

At one extreme is the UK where Mercury Communications, the fledgling competitor to the privatised British Telecom, is now establishing treat com, is now establishing itself as a credible alternative, at least for big business customers. At the other extreme are countries like Austria, where the authorities see no reason for fundamental change to the present structure of presidents. present structure of regulation, though they intend to operate it

Many governments are steering a mid-course, keeping the basic network and services in a state-controlled monopoly, but opening up equipment sup-ply and the new value added services used by businesses to greater competition. This seems the route which West Germany and France are most likely to follow. It is also increasingly fayoured by smaller countries, such as the Netherlands and. Sweden, which is considering relinquishing the monopoly held by Televerket, the Swedish PTT, on the distribution of private exchanges.

But perhaps the most impressive example this year of the new spirit infusing European telecommunications comes from a area outside the tradi-tional core telephone networks tional core telephone networks
that of cellular telecommunications. Thirteen European
countries have sunk the notorious differences that bedevil attempts to forge a common European approach to high
technology by agreeing to establish a second generation panEuropean digital cellular network in 1991.
This project, if it comes to fre-

This project, if it comes to fra-ition, will create a unified European market in a major sector of telecommunications for the first time. Euro-optimists believe this will be a path-breakheve this will be a path-negating precedent which will show how Europe can create a home market of a size to rival that of the US and Japan. The next year will show whether this op-

West Germany

Bundespost battle-lines

Commission report recommend-ing a cautious deregulation of ing a cautious deregulation of the telecoms market last month, Mr Christian Schwarz-Schilling, the Posts Minister, promised that the process would begin next summer. First, the Cabinet needed to study the report, he said, then the Government's re-sponse would have to be put through Parliament.

with Mr Schwarz-Schilling's gentle prodding, the Cabinet will probably agree to try and press through the report's two

othat the Bundespost retains its monopoly over transmission and switching but that the supply of value added services on the telephone lines and of equipment be open to free competition (with the Bundespost as a competitor).

• that the telephone service be separated from the postal

as a competitor).

• that the telephone service be separated from the postal service and that the huge cross-subsidy from telephone to post gradually be stopped.

Not surprisingly, the proposals have been fiercely attacked. The Bundespost is a German institution and its workforce of 550,000 people makes it Western Europe's higgest employer. The prospect of change has frightened the three postal unions.

Only 200,000 of the workforce are employed by the telecommunications service but they are responsible for more than two-thirds of the Bundespost's total revenue - DM34.5bn of DM49.6bn last year. The telecoms operations covered postal losses in 1986 with a DM2.2bn transfer and still made a DM3.3bn net profit.

Without that sort of cover, the

Without that sort of cover, the unions fear thousands of postal jobs would be at risk and al-though they cannot strike by law, they promise to make the debate next year a hot one.

NEXT YEAR promises to be a turbulent one for the main players in West Germany's telecommunications industry. The Government is committed to introducing legislation to relax attempt to reform a crusty old economy and the opponents of reform long ago began to sharpen their claws.

After receiving a Government Commission report recommending a cautious deregulation of

tion partners, the Free Demo-crats (FDP). That means that for the next 20 months or so, Mr Kohl has no domestic backs to cover and could, if he has the strength, press ahead even with an unpopular deregulation of

The less good news is that the parliamentary schedule for next year is already shaping up to be tough. First, an emotional row, into which the entire country will be drawn, is brewing over plans to reform the way West Germans pay for their health service. Medical insurance companies paid out almost DM125bn last year, with the Government taking most of the burden and present, controver-sial, Cabinet thinking is to force

sial, Caninet thinking is to force people to pay a greater proportion of their costs.

A second debate over how to finance a DM39bn tax reform will also be in full cry early next year. The Finance Ministry will probably fail, due to its inwin probaby int, due to its in-ability to uproot dozens of deep-set political interests, to make the cuts in subsidies that it had hoped and some consum-er taxes look almost certain to

go up. Whether Mr Kohl will find the wind to shovel a rise in health costs, a badly-sold tax reform costs, a pany-sold tax retorm cad a Bundespost deregulation with the anions warning voters that post will be more expen-sive past the public in one year is a mute point.

It is also one of the Chancel-lor's great strengths that he seems able to judge when best to leave delicate issues alone. If the Bundespost deregulation becomes too difficult - if the unions, helped by the opposi-tion SPD, win the public argu-ment - then Mr Kohl is bound to find a way of dropping it at le for a while.

bert Stegmueller, the union representative on the Commission that drew up the liberalisagainst all 47 of them and, in a minority report, outlined the in-tellectual framework that the opponents of reform are going

to work from.
Telecommunications, he argued, was a natural monopoly, a classic competition exempt area. Competition would even-tually distort open communica-tion because of its inability to satisfy technical compatibility criteria and was therefore a po-tential barrier to innovation.

tential barrier to innovation.

He said the Commission had been impressed with deregulation in the US, UK and Japan but insisted that, as a result, private tariffs in those countries had risen, infrastructural commitments had been neglected the condition of some parties had ed, the quality of service had worsened and jobs in the sector had been lost. Private sector services would concentrate only on profitable areas, he said, leaving the Bundespost to cover the next.

on profitable areas, he said, leaving the Bundespost to cover the rest.

There seems little doubt that the unions will pounce on the difficulties that British Telecom is having bringing a quality service to non-business users as further evidence of the "dangers" of deregulation.

Thus, the arguments that the unions will take to the public will be chillingly simple - that letters will be more expensive to post, that the cost of a local call will go up (the Commission recommended that the huge tariff difference between high trunk and low local calls be erased), and that ("look at the British") call-boxes will begin to fail all over the country.

The Government's job is much harder, and if the tax reform is any guide, it is not a great marketer of ideas. Its arguments will have to be technical and it will have to concede that much of the row has been caused because buniness needs better communications. Nevertheless, many MPs in Mr Kohl's CDU will have great misgivings even if they understand the more will have great misgivings even if they understand the more technical arguments. or a while.

Mr Kohl, or perhaps Mr
The opposition has already Schwarz-Schilling will be de-

making the job easier. He is Mr Franz-Josef Strauss, the prickly leader of the Bavarian Christian Social Union (CSU) which is a sister party to the CDU and a member of Mr Kohl's coali-

Given that the CDU can be sure of support for any deregulation from the third coalition partner, the FDP, Mr Stranss's attitude in Parliament could be attitude in Parliament could be critical. One rather dark sign is that his representative on the Commission that drew up the recommendations hardly ever turned up to a sitting and other members assumed the Bavarians were not interested in denegalation.

However, Mr Strauss will be

egulation.

However, Mr Strauss will be flexible. For one thing, he is a great horse trader and the CDU may be able to offer him something. But Siemens, West Germany's biggest telecommunications group, is based in Bavarla and Mr Strauss cannot, and mend and described age it. Siemens' position is that some deregulation is in order largely because the US market has become so important to it in the last few years and the Americans constantly complain about how hard it is to sell services and equipment to the Bun-despost.

For the unions, though, and the SPD, their biggest parliamentary asset remains the ignorance and lack of interest of most MPs in telecommunications. In whatever form the Commission proposals become law, they will inevitably have been watered down. It is quite possible, for instance, that instead of simply allowing private companies to compete with the Bundespost in providing equipment and services, the Government may decide to guarantee the Bundespost (or Telekom, as the new telecoms services may be called) certain market shares in various sectors. For the unions, though, and

shares in various sectors.

That would at least provide a future government with another excuse to erect another com-mission to make, one day, an-other set of recommendations.

Ministerial profile: Christian Schwarz-Schilling

Media man's place in history

Christian Schwarz-Schilling has probably had his day.

If, on the other hand, the theory is thought to be a load of old rubbish, then the West German

Minister, 57 next month, may wish he had. From now on, the job gets harder.

Mr Schwarz-Schilling became Minister when Chancellor Hel-mut Kohl took over the reins of sovernment on October 1983. government on October 1982 and he must be one of the most secure members of the Cabinet. His great strength is that he knows much more about the complexities of broadcasting, data transmissions and even ordinary telephone conversations

Until his arrival at the huge white Ministry on the banks of the Rhine, the Bundespost had been largely run by bureaucrats, with a political head there by virtue of the Constitution only. Mr Schwarz-Schilling, though, had buried himself in new media and telecoms years before he took office.

before he took office.

He ran the Christian Democratic (CDU) media committee from 1975 and Mr Kohl had really little option but to make him Poets Hinister. The Minister's historic contri-

the minister's latter to contri-bution to date has been the in-troduction of a huge (around DM3bn a year for the past three years) programme to lay cable around Germany and so force a change in Laender broadcast-ing laws to allow the introduc-tion of private radio and telegition of private radio and television stations.
It hasn't all been peaches and

it hasn't all been peaches and cream. He has been heavily criticised from the start for spending too much money without first finding out whether Germans even wanted satellite and cable television. His private affairs have been exposed to pub-



lie attention. A decision to use copper wire rather than fibre optics as the main cable in urban areas attracted particular attention because the Minister happung to

tracted particular attention because the Minister happain to have a large interest in a business that makes copper wire. But independent experts have come to his defence, arguing that fibre optics are correctly being used over long distances but that copper was much more economical in towns and cities. When a West Berlin battery plant owned by the Schwarzschilling family began to pollinte its surroundings, he came under fire from environmentalists. The curious thing though, was that no one really took the story seriously. Mr Schwarz-Schilling's association with it seemed, in fact, to lend an air of joility to the entire affair.

A trim, grey-haired figure, he fills precisely the right gap in West German politics - when there are no serious politicians around to attack, the Posts Minister is always good for a 'scandal' either about profligate

Bundespost spending or his own business affairs (his busi-nesswoman wife Marie-Luise manages the family portfolio white he is office). Mr Schwarz-Schilling does not seem to mind

much.
In truth, he is an engaging man with a wide smile but who sometimes forgets that when he half-closes his eyes at press conferences he can look quite threatening. He studied in Berlin and Munich in the 1950s and speaks Chinese and English.

He is also a Rotarian which, if it has affected his business principles in any way, has probably helped give him a liberal tings that most of his party-still lacks. But he may have spent what

introducing new media and the new task shead. Prising loose the Bundespost's monopoly on telecommunications, will be much harder and far less glam-

One thing is certain, Mr Schwarz-Schilling is not going to go too far out on a political limb to satisfy foreign telecoms operators to open up the West German market. His heart is not in it and he was always more taken with broadcasting any-Still, he has in his hands now

Still, he has in his hands now a report recommending important deregulation of the telecoms market and he seems unimpressed with loud union cries that any change will threaten thousand of postal jobs. His job is to translate the report's recommendations into a political pill that first the Cabinet and then Parliament can swallow next year.

He may go down in history

He may go down in history with two great successes. On the other hand, history may not even be watching him.

Charles and More and onconsonation of the second

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Developments in France

Catching up with the rhetoric of change

THE FRENCH telecommunications industry is in the throes of a revolution. Since the Right reopening up to competition of the market for value-added eralisation of the French economy through a wide-ranging price gramme of privatisation, the gested the possibility of letting of all remaining price private investors operate netlifting of all remaining of works of pay telephone booths my through a wide-ranging proforeign exchange restrictions, and financial deregulation. The deregulation of the country's telecommunications sector was also placed high on the agenda of the conservative government.

Mr Gerard Longuet, the liber-zi Telecommunications Ministhe process of the country's huge telecommunications sector to the major changes and the increasing internations.

The unions and the cadres of the country's huge telecommunications authority, the Direction Generale des Telecommunications sector to the major changes and the increasing internations.

industry worldwide.

He argued that the country could not stand still and watch telecommunications being der-egulated in major industri-alised countries such as the US, Japan, Britain and even West

Sut 18 months later, despite the government's liberal rheto-ric, deregulation of telecommu-nications in France has been a slow and gradual process. In practice, the government has shown great hesitation to take the plunge and introduce major new legislation to deregulate the industry.

turned to government 18 months the market for value-added ago, the Chirac administration telecommunication network has sought to accelerate the lib-services - the so-called Vans as well as the market for radio telephones. He has also sug-gested the possibility of letting

> The government's hesitation over telecommunications deregulation reflects its concern not to provoke another potentially damaging controversy in the run-up to next spring's presi-

tions of deregulation. At the same time, the government was caught with related telecommunications controversies over the privatisation of CGCT, the country's troubled telecommunica-tions equipment manufacturer in the midst of a major international bidding battle.

The CGCT affair occupied

The CGCT affair occupied much of the administration's attention during its first 12 months in office. American Telephone and Telegraph (AT&T) was particularly anxious to gain control of France's second largest telecommunications equipment manufacturer, to gain a foothold in the French

market for public telephone switches. For CGCT currently supplies about 16 per cent of the French public switch market for public switch market for Large and Large an

The search for a solution for CGCT accelerated de facto deregulation in the telecommunications equipment market, which in terms of private switching equipment and terminals was already more open to competition than in many other western

In many respects, the conservative administration was forced to address the issue of opening up the public switch market to an outside supplier after the merger of the French state-controlled Thomson elec-tronic and defence group's tele-communications assets with those of Alcatel in 1983 under

communications assets with those of Alcatel in 1983 under the former socialist government,

Until the merger, the DGTs two suppliers of public switches were Alcatel and Thomson. It now had to find a second source. As CGCT, a former ITT substidiary nationalised by the left in 1982, supplied the DGT with switches made on a Thomson licence, the government to reform and had to find another partner for CGCT to provide the necessary and low-how for the troubled group. It was thus forced to look outside for a new international market. IBM has made no secret subsidiary as a sale of the company like the railways or the electricity of the railways or the state on the railways or the electricity of the railways or the

tween Alcatel and ITT which further reflected the inexorable internationalisation of the French telecommunications industry. CGE, Alcatel's parent, surprised the industry last year when it announced a major joint venture with ITT in which it would gain control of a joint venture grouping Alcatel's and ITT's telecommunications busi-

nesses to form the world's sec-ond largest telecommunications group after AT&T.

With the telecommunications manufacturing industry taking such a significant lead to devel-on through major international

decided to speed up the deregu-lation of the car-phone market. It has asked private companies to bid for a share of this emerg-ing sector. Three French groups, including Bouygues, the Generale des Eaux and the

The chosen company will be in charge of a programme to establish a car-phone network for between 50,000-80,000 cars by as well as the lead France has The chosen company will be

The government has also drawn up initial draft legislation designed to change the statement of the statement tus of the DGT to turn it into a state-controlled company like the railways or the electricity utility. As a first step towards

thorities are not only their anxi-eties over the political and so-cial repercussions

cern not to destabilise a telecommunications system which has turned into one of the tech-Lyonnaise des Eaux, have put in bids as well as US West, one of the former American "Baby Bells."

Has turned into one of the technologically most advanced in the West and the technologically most advanced in the technological most a of post-war France.

> taken in introducing its video-tex Minitel service, plus other services like the electronic tele

phone directory.

The government is clearly keen not to unsettle an industry which has become one of the backbones of France's industrial structure by a hasty and little thought-out deregulation pro-

But if the country continues to show signs of hesitation over deregulation, it has clearly ac-cepted the inevitable fact that deregulation is a process the French telecommunications industry cannot escape and will need if it is to maintain its prominent position in the



Mr Please Scard, CGE chairman: active in restructuring

Alcatel's future

New products will be vital

A NEW giant in the world tele-communications industry has been born this year, following the landmark deal between France's Compagnie Generale d'Electricite (CGE) and FTT.

The transaction has led to the creation of a new international telecommunications group telecommunications group called Aleatel with annual sales of about \$125m and second only to American Telephone and Telegraph (AT&T) in the world telecommunications industry lengue. With the merger of CGEs and FTT's telecommunications. company, controlled by the re-cently privatised French group, CGE has faifilled its ambition to create a telecommunication group with the critical scale to compete in a tough international environment.

Moreover, the underlying idea behind the merger was to create a new entity whose international market coverage could help support the future high development costs of its products, especially in public switching. Indeed, public telecommunications occurred for 25 new costs of Indeed, public telecommunica-tions account for 35 per cent of the sales of the new company which new has two digital public switch systems, Alcatel's E-10 switch and FTT's System 12 switch. For CGE the search for broader international penetra-tion had become all the more ur-gent in view of the peaking of the French public switch market. The FTT switch was one of the main question-marks raised by the merger. But CGE is conf-dent over the fatters prospects of

the ITT system. At the same time, CGE management led by Mr Pierre Suard, its chakman, has already been active in res-tructuring and integrating the various scattered operations merged in the new telecommuni-

One unique aspect of the new company is that it offers two dig-ital public switch systems with the E-18, the world leader in the field, and the ITT system. The company is also widely known in the telecommunications busi-ness systems sector, as well in consumer electronics, having in-herited ITT's German television

The international characteristics of the new group are elo-quently reflected by the geo-graphical distribution of its sales. The European market as a whole now accounts for 37 per cent of sales and North America for 3 per cent. The rest is shared between Australia, Asia and Af-rica.

rica.

The challenge for CGE and the new group will clearly be to see whether the new French tap management will successfully complete the integration of the various operations merged in the joint venture. Moreover, the fature will also depend on the success of the company in developing see product ranges.

The immediate future has never secured a hig problem. The test will come in three or four years', says a French teleconications industry analyst.

Ministerial profile: Gerard Longuet

Zeal for open market policies

SINCE TAKING office as the Minister of Posts and Telecom-munications 18 months ago, Mr Gerard Longuet has made his mark as one of the most politi-cally skilful young liberal min-isters in the French right-wing

Unknown to the French public at large, the 42-year-old Mr Longuet immediately set about launching an ambitious programme designed to deregulate gradually and reform the French telecommunications in-

He joined the Government as a representative of a new breed of young French right-wing poli-ticians led by Mr Francois Leo-tard, the Communications and Culture Minister and leader of the French Republican Party. They are fired with a crusading zeal to introduce new open mar-ket policies in France.

ket policies in France.

This new young group of ministers has been nicknamed La
Bande a Leo' or 'Leo's gang'.

Apart from Mr Leotard, who has never hidden his ambitions to run one day for the French presidency, and Mr Longuet, the other two members of the 'Bande a Leo' in the Government are Mr Alain Madelin, the Industry Minister, and Mr Jacques Douffiagues, the Transport ques Douffiagues, the Transport Minister.

All four are similar in their commitment to ardent liberal policies as well as in their roung look and fresh approach to French politics.

However of the four young Republican Party ministers in the Government, Mr Longuet has perhaps had the best track record so far. Unlike Messrs Le-otard, Douffiagues and Madelin, he has avoided being caught in major political controversies over Government policies or over divisions within the Right itself.

This is all the more remarkable considering the potentially explosive issue of telecommuniexplosive issue of telecommuni-cations deregulation which has been pressing ahead during the last few months. But Mr Lon-guet's skill has been to keep the political rhetoric and concept of deregulation alive and on of deregulation alive and on centre-stage in France while at

the same time as carefully hold-ing back the practical process of deregulation itself.

Indeed, despite Mr Longuet's initial piedges to deregulate the telecommunications sector rapidly and in sweeping fashion, little has so far been done in practice. Even Mr Longuet's proposed deregulation bill could be held back until next springs presidential elections to spring's presidential election to avoid the issue sparking off a politically dangerous pre-elec-tion row.

Moreover, Mr Longuet has also been anxious to win the consensus of all parties involved by
deregulation including unions,
telecommunications cadres and
engineers, and telephone users.
But despite the slower-than-expected application of the deregulatory process in French telecommunications, Mr Longuet
has in large measure sketched
out the broad outlines of the future evolution of this key sector
of the French economy.

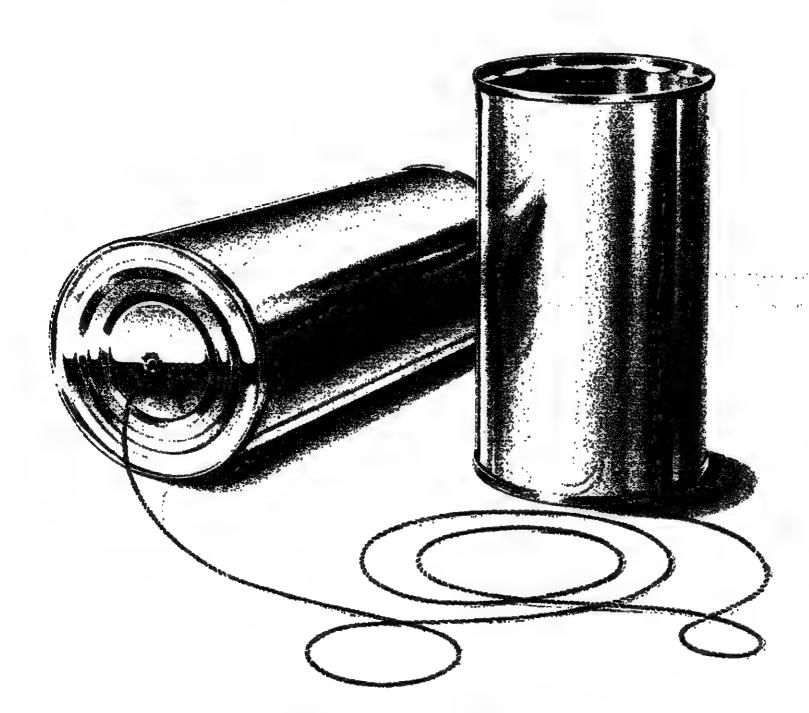
of the French economy.
Value added networks are to be opened up to competition although measures will be taken to protect the interests of the French Bull computer group, among others against the possiamong others, against the possi-ble domination of IBM in this new market. Car telephones are

new market. Car telephones are also being opened to competition and the status and structure of the Direction Generale des Telecommunications (DGT) are being reformed.

Some people have criticised Mr Longuet for not matching his liberal rhetoric with practical measures. But many others acknowledge that the Minister has skilfully cleared the way for a gradual and smooth process of deregulation for the French telecommunications industry telecommunications industry

over the next few years.

A graduate of the elite Ecole
Nationale d'Administration
(ENA), the institution which has
groomed all the country's top
civil servante and countless civil servants and countless leading political figures, Mr Longuet also has the good looks and charm to ensure him a promising political career, whatever the outcome of next year's presidential elections.



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British Telecom

On the defensive

IN THE LAST few months, Brit-ish Telecom has finally hit the iceberg which has been threatening to hole it since its priva-tisation in a blaze of publicity and international hype three

years ago.

As an unprecedented wave of criticism has swept over the company, it has been forced to trim back on its job-cutting programme; its management has been put on the defensive, and it has had to concentrate its sights much more firmly on its basic network services. basic network services - a rever-sal, for the time being at least, from its heady dreams of be-coming one of the world's leading information technology

The reasons for this setback The reasons for this setback derive from the difficulties of forcing through organisational changes at a time when technology has also been forcing the pace, and when the company has been under a new microscope in the shape of the shareholding public. In this period it has had to face up to the challenges of: lenges of:

A massive investment progamme in digital technology to moderning the network. To put in the switches and the cabling for this system, BT is spending £2bn a year, one of the most substantial project ever lemeched. stantial projects ever launched in the UK. Teething troubles with some exchanges have caused quality problems. Exceptionally high demand in the City of London, which has gone through its own revolution since the abolition of fixed commissions a year ago. Demand for new lines has gone up by 40 per cent in the City, stretching the current capacity to its limits at a time when financial institutions have been under particular pressure to perform well themselves. This has inevitably led to inadequacies in the ET service and friction with some of its clients in the financial

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Ment.

Madditional pressure to improve the group's financial and operating performance is being applied by Mercury, the second licenced network services group. Mercury is able to put particular emphasis on attacting BTs more lucrative business traffic, where again it is having to change its old habits to maintain profits.

Moreover the group's financial and service era. In this environment, the group will have to put more stress on communicating effectively with the public at all levels of staff - an area in which many consumers find it woeful instances to maintain profits.

BTs recent announcement that it will not be aiming to continue the stress of about 5,000 a year is an area of about 5,000 a year 15 and 5,000 a year 15 an

current capacity to its limits at a time when financial institutions have been under particular pressure to perform well themselves. This has inevitably led to inadequacies in the BT service and friction with some of its clients in the financial markets.

The change of status to a private company has put additional pressure on the company to reorganise itself quickly into a more aggressively profits-oriented company. This means cutting costs, partly through better use of assets the group is self-ing off a significant amount of surplus property - but also by reducing its work force.

Yet these reductions are having to change its old habits to maintain profits.

Thougher stitindes to labour rate of about 5,000 a year is an indication that it has decided that its immediate target must be to improve its relations with the public.

The investment plan needed to be kept on track. The quality in general, it has also phone service, and maintenance; and it is anaking a big push on quality in general, it has also promised to improve the standards of callbox maintenance; by traced to this dispute.

The group is also faced with the problem of changing its style of operation to one which is more responsive to the market. Like most public telephone service, and and it is reasserting its prime role as a deliverer of a service, BT has a proud engineers that it will not be aiming to that it will not be aiming to that it will not be aiming to that it will not be about 5,000 a year is an indication that it has decided that its immediate target must be to improve its relations with the public.

It is making a big push on quality in general. It has also promised to improve the standards of callbox maintenance; by the profits or the problem of changing its style of operation to one which is more responsive to the markets.

The property is also faced with the problem of changing its promised to improve the standards of callbox maintenance; by the profits or the problem of changing its promised to improve the standards of callbox main

gramms in complex new equip- country.

But the talephone industry is

Mercury Communications

Making good headway

While Mercury's parent, Ca-works.

While Mercury's parent, Ca-works.

Off has asked Offiel for per-While Mercury's parent, Cable and Wireless, has been challenging entrenched telecom monopolies around the world, Mercury has got on with the same job in Britain. Its range of activities this year show it is activities this year show it is activities the same job in Britain. The range of activities the year show it is activities the year sh



THE PAST year has been a good one for Mercury Communications, the new rival to British nies for the distribution of tele-

activities this year show it is now beginning to assume the fering new services, such as characteristics of a fully-fledged network: characteristics of a fully-fledged network:

Olt began signing up residential customers to complement the hustness meen who wurs the initial target.

Olt has pushed into the international market, winning a crucial breakthrough in August when it clinched a deal with Raly is first with a continental operator - for the exchange of public telecommunications traffic.

Olt entered the fast growing world of mobile communications, by launching a paging operation jointly with Motorola of the US.

It is first with a continental operator of mobile communications, by launching a paging operation jointly with Motorola of the US.

Office of interest in Mercury's indirectly connected serioto the international telex vices for residential and small market, thanks to the resolution of a dispute with BT about telex planning over the next year to interconnection by the Office of launch a big press advertising Telecommunications, the industry's regulatory body. an avalanche of interest in Mer-

tomers to these, the newest of its mainstream services.

Mr Owen makes no bones about the fact that there is a po-litical dimension to Mercury's pursuit of the smaller customer.

It increases the number of people who receive Mercury and who are taking advantage of the Government's policy of competi-tion. They will therefore tend to vote for the Government and that boops the politicians hap-

Achieving this perception that Mercury is not, as the opponents of privatisation allege, a
cream-skimming operation
chasing only the custom of hig
business - is important for Mercury, because the Government
is beginning to ponder decisions central to the future of the
new network. Principally,
should the duopoly of BT and
Mercury be continued past
1990?

a country the size of ours is not on, says Mr Owen, though he is not against extra competition at the edges, such as the re-sale of voice or through cable televiion networks.

Meanwhile, the heart of Mercury's 4,000 customers and of its revenues - which the company

UK trunk network Edinburgi Carlisle Network extensions Sheffleld Derby \Nottingham Milton Keynes Gloucester LONDON Croydon Kingston-upon-Bournemouth_ /Southampton

of the decade - are still in big business, directly connected to its network. These, like its smaller customers, can take advantage of Mercury's more mod-ern network and cheaper

Mr Owen says response from big business has been phenom-enal. Most large City companies use its services and it is now spreading out into building so-cieties, insurance companies, high street retailers and the blue chip manufacturers. More-over, the £300m invested so far means it has established most of its basic network. The bulk of investment in future will be seared directly to growth in demand. On past performance, there is likely to be plenty of that.

David Thomas

UK equipment trade 30.8 111 ne. па na. 47.9 6.8 98 131 42.1 55.0 61.7 21.0 ne. 234



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BT's judicious critic

PROFESSOR BRYAN CARS-BERG, director-general of the Office of Telecommunications, the regulatory body for UK tele communications, came through a baptism of fire this year.

For although the row which broke out this summer about British Telecom's poor quality of service was mainly directed at the newly privatised company, Carsberg was under scrutiny too. Many of the letters to newspapers were directed against Oftel A watchdog without teeth, in the pocket of BT, impossible to find in the phonebook - these

were familiar refrains.

A lesser man than Caraberg
would have buckled under the pressure and rushed into some ill-considered action against BT to demonstrate his toughness. Carsberg was certainly active: he pushed BT into resuming the publication of quality of service statistics. He threatened the company with financial penalties unless it improved its in-stallation and fault repair per-formance and he published a damning survey of BT's call

Yet he also resisted the wil-der assaults on BT. He was quick to point out that although

first head in 1984, in the face of widespread fears at the time

He has a complete grasp of the intricacies of both the complex framework governing the UK's liberalised telecommunications industry and the fast ev-olying industry itself.

Yet his past as an academic accountant, most recently as professor of accounting at the London School of Economics, hardly seemed the ideal training ground for the glare of pub-licity he receives at Oftel Prof Carsberg says, however, that he learned to deal with the media in the US between 1978 and 1981 year.
when, as assistant director of the Financial Accounting Standards Board, he helped prepare tures governing telecommunities first inflation accounting cations in the UK. He expects



Professor Bryan Caraberg: pressing for competition

interrupted by the BT dispute this year, BT's quality of service that year, BT's quality of service that year, BT's quality of service on the experience of telecommunications liberalisation in munications liberalisation in the UK to date.

He accepts that the early framework was a trade-off between what was ideal and what was achievable within a reasonable timescale. But Prof Carsteeped since he became Offel's work at present requires only first head in 1984, in the face of work at present requires only first head in 1984, in the face of work at present requires only what he calls "fine tuning" one widespread fears at the time example he gives is the need to that Offel would be no match for build in more quality of service BT, the privatised near-monoportical into the rules governing

He is happy with the powers available to Offel and to himself, although some observers believe the cumbersome requirement for him to refer licence disputes between himself and the telephone contents. cence disputes between himself and the telephone operators to the Monopolies and Mergers Commission may have blunted Offel's cutting edge. Prof Carsberg has not invoked that power yet, although he has said that he will probably initiate a major Commission investigation into Commission investigation into BT's pricing framework next

Appointed this year for another live-year term, he now has enough experience under his cations in the CK. He expects the Government to allow companies to be able to lease lines from BT and Mercury Communications, the two network opera-

belt as head of Oftel to reflect tors, and re-sell them for simple on the experience of telecom-voice traffic in 1989, when the decision is due. He is less sure whether the

Government should encourage a third or more network com-petitor to BT and Mercury after 1980, when the duopoly is due

He talks excitedly about the continuing need to press for more competition in local telephone services in the UK - a feat which he says even the deregulated US has found it hard to accomplish. He believes that Mercury will extend its residential services and that cable television companies will increas-ingly carry phone services over their networks.

The Oftel director-general is so confident about the benefits of liberalisation that he is un-worried by the increasing division of the telecommunications world into two camps: the US UK and Japan which have intro-duced competition into their basic telephone networks; and the rest, most of which have drawn back from this radical

step.

"After all, the US and Japan
"After all, the US and Japan are pretty distinguished company to be in," Prof Carsberg points out.



(Signes for 1985 or nearest com	rnover parable	period)
	Cm	% of Teta
Alcatel CFT	700	8.8
Ex-ITT	850	10.7
1 Alcatel	1,550	19.5
2 AT&T	1,350	16.9
3 Northern Telecom	1,000	12.6
4 MEC/Fujitsu/Hitachi	1,000	12.6
5 Siemens	950	12.0
6 LM Ericeson	750	94
7 GTE	350	4.2
8 Plessey (Inc. £70m Stromberg Carlison)	330	4.1
9 QEC	260	3.3
10 Italial	180	23
11 Philips (AT&T Equipment)	130	1.6
Others	120	1.5
The technique in January, 2007	7,970	100.0

UK telecommunications merger

Ready to venture abroad

largest neteronnumerations equipment manufacturers, will hold crucial negotiations over the next couple of months which will determine the shape of the UK industry probably in-to the next decade.

The two companies have to put flesh on the hones of their

framatic announcement, made they were to merge all their telecommunications equipment interests, an announcement which turned the UK industry upside down.

Among the matters to be final-ised are the management struc-ture for the new venture, the precise amount of rationalisa-tion and cost saving it will yield, and the strategic priorities of the new company once it is up

the new company once it is up and running.

Already it is clear, however, that GEC and Plessey believe the merger will greatly strengthen their presence on world markets. While it will not propel them far up the world league table of equipment man-ufacturers, it will create a joint venture with an annual turnventure with an annual turn-over of more than £1.2hn, allow them to cut their cost base par-ticularly in manufacturing and give them the backing of both their parents in meeting inter-national competition. Moreover, GEC and Plessey

THE GENERAL Electric Com-pany and Pleasey, Britain's two will have the credibility to at-largest telecommunications tract foreign companies seeking partners in the scramble for in-ternational joint ventures which increasingly dominate the industry.

The clear priority for the new venture will be to pick up more sales outside Britain, which at

ions equipment.
GEC and Plessey can hardly look to squeeze much more mar-ket share out of Britain, espe-cially since the UK is now one of the world's most open tele-

with their home market now much more competitive, both companies have boosted their overseas activities. Plessey has successfully turned round Stromberg-Carlson, its Florida-based exchange manufacturer, which is now winning orders from Bell operating companies eager for a third exchange supplier in the US. It has developed an internationally successful payphone business. And cause the new venture will dom-inate many markets in the UK not just public exchanges, but also private exchanges, multi-Shares of UK Telecoms equipment market

oped an internationally suc-cessful payphone business. And it has signed a number of joint ventures aimed at boosting overseas sales, such as with it-attel of Italy on private ex-changes and with US Sprint on packet switching equipment. Both companies believe the venture must add to its sales in the US, building on Stromberg's success. Mr Richard Reynolds, managing director of GEC tele-communications, said immedi-ately after the merger was an-nounced that the US focus was unlikely to be in private ex-changes, which he described as a commodity business, but in networking products such as System X Telex switchin Multiplex equipment Subscriber modern equipmen equipment Network mene Microwave racio PABX equipment networking products such as transmission equipment The joint venture agreement appears to bring to an end the long-running sags of the fraught relations between the two companies, which had culminated in the hostile bid by GEC for Piessey last year. The bid was

Above: Sir John Clark, ci and chief executive of Pie: who puts an emphasis on his role as an innovator. Pictured of the left: Lord Weinstock of GEC. The merger of GEC and Pleaser £590m (7.4% of world sales),

which now puts the group late sevenite place in the above

With their home market now

wetoed by the Monopolies and Mergers Commission largely on the grounds that it would reduce competition in the UK defence industry, where both companies are also strongly represented.

However, the Commission, echoing views widely held by industry observers, saw merit in the two companies mergins

the two companies merging their overlapping manufactur-ing interests in System X, Britain's only digital public ex-

change.

The agreement reached by the companies goes far beyond System X, however, to include private exchanges, transmission and data communications. Of the fi.2bn annual sales of the participations of the first reaction. new joint venture, System X ac-counts for about £450m, private exchanges £300m, with the re-maining £200m being composed

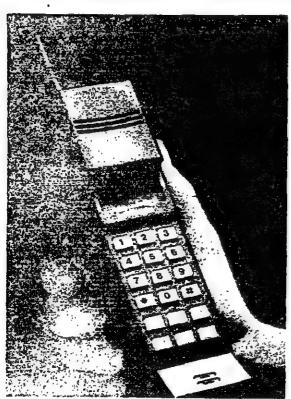
maining £200m being composed of a number of products including data communications.

The next year should show whether the flagship UE companies, long regarded as alsonans in the international equipment business, have left it too late to sort out their mutual problems. Or it may be that they now have the momeotum to now have the momentum to emerge as strong players on the international market.

Devid Thomas

Nokia at Telecom 87

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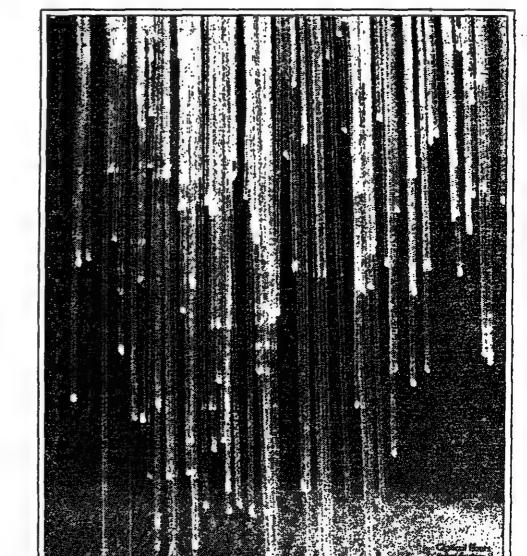
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Profile: Ericsson of Sweden

Impressive defence of its position

ERICSSON, the Swedish tele-communications group, has im-pressively defended its position one of the world's leading telecommunications groups, not least through its victory in the prestige-laden battle to take over CGCT, the struggling French producer with its 16 per cent of the French market for telephone exchanges.

In the process it succeeded in out-manoeuvring two of its strongest international competitors AT&T of the US and Sie-mens of West Germany.

At the same time the group is beginning to the see the light at the end of the tunnel in its cost-

ly affort to break into the de-manding US market for public telephone exchanges. In addi-tion to test installations, it has now signed contracts with four ating companies, although it is still to receive any large volume

Mr Bjorn Svedberg, Ericsson's chief executive, insisted earlier this year, however, that the group was still on schedule for its target of a 10 per cent share ing market by the end of the

Ericsson was the first non-North American telecommunications group to pass the Phase A testing by Bellcore (Bell Communications Research), the research organisation of the Bell operating companies with its AXE digital public switching

The current Phase B field tests include applications at the extremes of public switching environments, a 6,500 line switch for Nynex in New York's high density financial district, and a 10,000 line switch for Mountain Bell serving a low density rural area of Canon

Svedberg says that the public and private telecom mar-ket worldwide is "very tough in the short-term," but he main-tains that some of the group's competitors "will fail by the wayside, leaving growing mar-kets to a shrinking number of

The Swedish group is the world's most international telecommunications equipment supplier, and by the end of last year it had 16.8m AXE lines intries. The AXE switch is now turing programmes, not least in being manufactured in 18 coun-In Europe, Ericsson is the

sively to turn the tide.

neous telecommunications de

ent programmes at the

Some 22.1 per cent of group turnover comes from Sweden, 42.6 per cent from the rest of Europe, 10.4 per cent from Latin

America and 9.9 per cent from

In a number of its business er-

number two supplier in a num-ber of countries including the UK, which is now its largest single market for AXE systems. In the UK and France it has entered into local partnerships with Thorn EMI and Matra respectively, and it is also seeking partnerships in Italy and Spain with Telit (the Italian holding group, which is to bring togeth-er the state-owned Italial and Flat's Teletra) and Telefonica respectively.

Mr Svedberg maintains that if

Ericsson reaches its targets in sales of Ericsson's public telethe UK and the US, it should incommunications division rose the UK and the US, it should increase its existing volumes by 6 per cent to SKr5.58bn and 30-40 per cent or I-1.5m lines a year. Volume deliveries of about 700,000 lines a year have begun in the UK this year, and the group hopes to be making similar volume deliveries in the

US in two to three years.

It has achieved an important sures it had not been possible market breakthrough in Algeria in the short-term to compensate this year, where it has been selected to modernise the telecommunications network and it velopment costs. has also won substantial low-iow-on orders in China, where 140,000 AXE lines are in service and a further 280,000 lines are on order.

Public telecommunications last year accounted for 55 per cent of Ericsson's operating income and 32.5 per cent of group turnover of SK731.6bn. Information of the public telecommunications.

on order.

Ericsson is still failing, however, to achieve the financial ton systems accounted for 29 breakthrough that would match its marketing successes, and investors have had to endure a number of unpleasant shocks in recent years as profits have legged well behind the group's per cent, and components for 25 per cent, and components for 25 per cent. recent years as profits have legged well behind the group's stated ambitions.

first half of 1987, when profits (before appropriations and taxes) fell by 11 per cent to SKr409m from SKr461m a year earlier. The picture would have been even worse but for extraordinary gains of SKr275m from the sale of shares and as-

The group's profits have been under heavy pressure since the second half of 1984. Last year Ericason achieved profits (before appropriations and taxes) of SKr911m compared with SKr978m in 1985, SKr1.57bn in 1984 and SKrl.76bn in 1983. Group turnover last year to-talled SKr31.6bn.

Despite far-reaching restruc-

I KNOW of no other European I know of no other curopean telecommunications adminis-tration where the growth is as rapid as it is in Norway," says Mr Kjell Holler, director-general of Televerket, the Norwegian Telecommunications Administration (NTA).

The real growth of Norwegian telecommunications has been at an annual rate of 12-14 per cent in the last two to three years. This high growth rate has been maintained by an annual investment rate of NKr 4.5bn on annual sales of NKr 12bn. Liberalisation of the telecom

munications environment has also given Norway a leading edge on the other Nordic couning information systems divi-sion, Ericsson has failed decitries. In 1985 it was decided by parliamentary decree that the Norwegian Telecommunica-tions Administration (NTA) would be split into three areas In June, Mr Svedberg warned again that the group's simultavelopment programmes in the within the terminal market and US and the UK required "large that free competition would be amounts of money and are de-pressing our earnings. He said the group was experiencing problems from seeking to con-duct a number of major devel-

A new telecommunications company, TBK, was established with a share capital of NKr 400m to deal with the non-regu-lated businesses of NTA. TBK is 100 per cent owned by NTA. Its line of business is restricted to trading and installation of com-

munications equipment.

A new governing body, STF (Statens Teleforvaltning) was transferred from the NTA to transferred from the NTA to was transferred to TBK from however, left open some questive UK and 50 time oversee the rules for competi-

WITH THREE regional telecom companies and two state operating agencies, Denmark has a

There is a single unified network and no direct competition between the companies, which only operate within their own regional areas. But the struc-

regional areas, but the struc-ture generates competition in-directly.

All the companies, of which Copenhagen Telephone and Ju-tland Telephone are the two biggest, are keen to prove to their political masters and their customers that they are best and most efficient. The technical staff in the companies com-pete keenly to be the first with

pete keenly to be the tirst win the newest.

There is no way of proving that this form of competition, which is not competition in the market, is the reason, but it is a fact that telephone charges in Denmark are the lowest in Eu-rope and its telex charges sec-and only to the UK. And the and only to the UK. And the Danish companies are not being bombarded by customer com-plaints about poor services and general inefficiency.

The companies are not free to

eas Ericsson is increasingly en-tering into partnerships in or-der to gain access to outside technology and in September it announced that it would join forces with IBM of the US in the set their own charges, however.
They must apply to the Government for permission to raise charges. The Government as often as not tells them to halve a planned increase. development of new features for advanced telephone netplanned increase.

As Denmark has no own manufacturer of switching equipment, the Danish market has al-

Norway

Soaraway growth

tion, frequency management, NTA's equipment supply ued added network services type approvals and licences, branch. In addition TBK supply ued added network services (VANS), a government-appoint for CATV in ed committee, whose mandate authority will come under the jurisdiction of the Ministry of

subscriber-equipment markets.
British telecommunications consultants Havronies Telecommunications advised the new governing body, providing com-parative information about the liberalised market situation in and Norway.

The new approvals body will become fully operative in 1988.

Under the new liberalisation, the NTA's monopoly, however, allow the NTA to seek the monwas more or less left intact.

There was a broad political contact that the that the that the seek the money. There was a broad political con-sensus that the Norwegian telecommunications network should be a monopoly so that control of expansion would be maintained. Equipment supply was transferred to TBK from

competition with private com-

panies.
The NTA is seeking financial Communications. Competition The NTA is seeking financial was thus introduced into all freedom from the Government so as to be able to approach the money markets for its financial requirements. A proposal to this end will be presented to the Storting (Norwegian parlia-ment) in 1988. The NTA's budget has always been decided by the the UK and highlighting the dif-ference in equipment stan-dards, regulations and approval philosophies between the UK for 1988, the NTA has been given a running balance of NKr

network and borrow NKr 500m because of our high standing and profitwould be ability, he says.

The new liberalisation has, borrow new ourser left open some questions.

is to discern where the line should be drawn between the NTA and VANS, is to deliver a report for Storting discussion by the end of this year. Mr Holler says that because VANS are growing rapidly, he would like to see the NTA compete in that sector as a private company, although it is not yet known whether that would be in com-

petition with the newly-formed TBK.

New services such as mobile telephone and data communications have also experienced tre-mendous growth. While normal greater slice of NTA's income, new services are expected to demand some 30-40 per cent Norway has the world's highest mobile telephone usage -there are 26 mobile telephones per 1,000 of Norway's population of just over 4m - or roughly eight times more distribution than in

Mr Holler admits that NTA is having some problems in meeting the demand for new services. "We could use at least NKr 500m more for investment to meet demand," he admits. He would also like to have the financial foreign to be a like to have the financial foreign. nancial freedom to improve staff wages as a way to encourage trained technicians to stay

with the company.

The process of digitalisation started in 1986. Alcatel's System 12 is being implemented to give Norway one of the most advanced telecommunications systems in the world. By the end of this year some 40,000 sub-scribers will be connected and that is expected to increase by more than 200,000 annually from 1988. There are about 2m telecommunications subscribers and the number increases at a rate of 100,000 a year. By 1993 around 50 per cent of the Nor-wegian subscribers (1.3m) will be connected to digital ex-

Next year, trials with a new integrated services digital net-work (ISDN) will start and by 1990 a pilot service will be launched. The network will allow access to a broad range of telecommunications services through a single connection

cannot provide the service themselves. Telexbureaux operations, at least one of which is foreign-owned, have

been allowed, for example.

A final solution to third party use of private data or telenet

services on leased lines has not

emerged. The problem is that if a private customer is able to take payment for the use of its leased lines; it then offers ser-vices in competition with the of-

fical monopoly companies. It also puts a dent in the prin-

ciple that the operating compa-

nies must service all customers

within their area, including those on which they can expect

to make a loss, on equal terms.

A system is being considered

by which a supplementary leas-ing charge will be made, and it will be related to the number of

circuits available, with a quantity rebate, according to Mr

Wirren.
The telephone companies themselves will be in competitions businesses for

Karen Fossil

Denmark

Low-cost calls

from the international suppli-ers, making it an interesting test ers, making it an interesting test market. Bricsson, supplemented by Siemens at Copenhagen Telephone and Alcatel (ITT as was) at Jutland Telephone, has won the main contracts for digitalisation, which is going ahead

The majors have recently got a Danish niche competitor, however, in Bang & Olufsen, better known for its television and audio equipment. The company has developed a line of sometiment of sometiment of some statement of some stat phisticated equipment for small exchanges, which the company believes is going to play an es-pecially useful role as integrat-

ed service data networks (ISDN) systems go into operation in the next year or two.

Danish industry has carved out a more important role for itself in the construction of the hybrid network, an ambitious project, given the political go-ahead in 1963, to create a national broad-band optical fibre in the next phase, business users who need the two-way signal capacity of the broad-band net will able to link up to the will able to link up to the system. In the final stage, households will be linked in to the system as well. In the debate on liberalisation in the Danes are following a middle way. Network competitional broad-band optical fibre

One of the country's oldest ca-One of the country's oldest ca-ble and electro-technical com-panies, Nordisk Kabel og Traadvarefabrik (NKT), took the plunge into optical fibre-technology, producing fibre, transmission and conversion

several export orders - in Ku-wait, Finland, Switzerland and the UK - as well as being a main supplier to the Danish hybrid net. Last year AT&T gained a foothold in the European opical fibre market by acquiring a ma-jority stake in NET's fibre pro-duction unit.

The philosophy behind the hybrid net is to construct a trunk line broad-band system, combined with coaxial cable links to the end-users. In the first phase this is being used to provide cable TV and radio ser-

In the next phase, business

Hans Wurzen, director general of the Post and Telegraph Agency (PTT) said in a recent presen-tation. Here with us the telenet is regarded as a national resource, which through standardisation should facilitate the widest-possible general utilisa-

er competition in the provision of terminal equipment and val-ue added network services," he said.
This leaves unsolved a host of

problems concerning third party traffic, provision of private supplementary services and competition in terminal equipment. In principle, the entire field is subject to a state-controlled monopoly, but in practice the monopoly is punctured by liberal practice in awarding

by liberal practice in awarding dispensations.

Where terminal equipment is concerned, the basic practice is that equipment must receive type approval. For new services, mobile phones, telefax, teletext, and personal finders, the market has been fully liberalised on these terms.

alised on these terms.

Mr Wurzen hopes that the entire modem field will be liberalised in the New Year, but telephones. phones have proved troublesome, as there are severproved al Danish producers, especially GNT Telematic, subsidiary of Great Northern Telegraph, and KirkAlcatel (formerly Standard

tion with private businesses for value added services. The prob-lem here is to avoid unfair competition by the monopoly com-panies. The principle has therefore been adopted that money must not pass from the monopoly operations to competitive operations, which have to be hived off into separate companies with their own accounts and which are supervised by Hilary Barnes

Copenhagen





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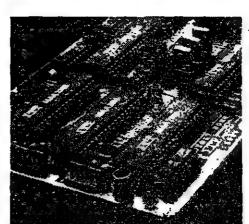
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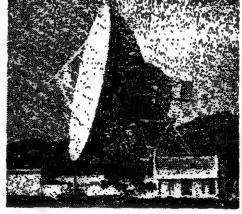
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WORLD TELECOMMUNICATIONS 11

Finland

Niches of world leadership

ber of his counterpart in Stockholm in mid-September, made around the world. The company

the connection and saw him. has now started to promote the That call may have inaugo- Mobira brand actively. rated the world's first visual telephone contact using normal companies to develop a fully telephone lines. The system was digital transmission system in developed by five scientists at the early 1960s. In consumer Finland's State Technical Research Centre who later formed a company called Vistacom for commercial production. Commercial production. Commercial sales are expected to production of television sets.

account for only 0.05 per cent of the global output in those fields, but in a few, narrow niches they are among the world leaders.

Finland lacks key raw materials and its small population does not provide a big enough home market to build on. And Its open-door policy invites con-stant competition from abroad, Despite the odds, some com-

panies have made it to the top. And now a second wave of entrants trying to penetrate the European market is emerging. The Eureka programme and other pan-American projects, such as CERN and ENA, have attracted a host of Finnish companies.

panies.

Meanwhile small silicon valleys have been set up all over the country, mainly close to existing technical high schools, which provide innovations and R&D for entrepreneurs willing to take a risk. neurs willing to take a risk.
The best known of Finland's

high-tech companies is Nokia, the country's largest publicly quoted group with interests in quoted group with interests in electronics, information systems and cables as well as paper and rubber industries. Nokia's turnover tops FM11bn (\$2.5bn), the bulk of which is generated in high-tech prod-

ucis. Nokia has found its niches in mobile telephones, telecommu-nications and consumer electronics. Thanks to its joint ven-tures with Tandy of the US and Matra of France, Nokia-Mobira is now the world's leading mak-

IT WAS A phone call with a dif-ference. Mr Pekka Tarjanne, head of Finland's telephone and telecommunications ad-Mobira suffers from a slight image problem as the products are sold under regions

Vistacom demonstrates what Finland has to offer to the world of electronics and telecommunications. Finnish firms account for only 0.05 per cent of the global account. It has also developed microit has also developed micro-computers, although the compa-ny had a sticky start with mar-keting problems abroad. Since it has concentrated on special applications, such as advanced banking technology, the sector has turned successful.

has turned successful.

Lohja, Finland's second television producer, may be dwarfed by Nokia in volume but not in technology. It recently publicised the first fully operational flat screen television set in Furners.

Vaisala, the manufacturer of environmental measurement systems, is the leading maker of radiosondes, which measure the pressure, temperature and humidity of the atmosphere. Its R&D budget accounts for about 20 per cent of annual turnover.

Electronics is Finland's fast-est growing industry with an average annual growth of 15 per cent this decade. The combined gross value of electonics pro-duction was FM10.6bn(\$2.4bn)

Exports of electronics increased by 38 per cent during the first six months of 1987 compared with the same period last year. An increasing share of exports and production is in the hands of small, innovative electronics companies, like Vistage of Companies are disling for com. Companies are dialling for success and occasionally mak-

Italy

The war of words that surrounds Telit

NOT MANY attempts at estab-lishing a unified industrial log-ic for one nation's telecommunications sector can have been as controversial, as poisoned by personal and political animosities and as utterly frustrating as the lengthy and self-defeating row over the formation of Italy's Telit, the umbrella company meant to bring together the state-owned Italtel and Fiat's Telettra subsidiary.

The creation of Telit, at least in the rhetoric that has accompanied the past two years of nepanied the past two years of negotiations, was to have been a
sign of Italy's determination to
strengthen its position in the
restructuring of the European
telecommunications industry.
Telit was to have achieved a
"critical mass" for the Italians
by bringing together Italiei, the
public switching company
owned by IRI-Stet, with Telettra, the smaller data transmistra, the smaller data transmission business that is part of Fi-

ing a trans-national alliance Accountants Arthur Anderwith companies such as Siesen and Price Waterhouse, mens, Ericsson, Plessey and meanwhile, agreed on valuations of around LA20bn for Telegraphics and the statement of the st

ing very much in the balance. L176bn to IRI-STET to achieve Some way must be found to save shareholding parity in Telit. the faces of both Mr Cesare Romiti, the Fiat managing di-that the deal was done. Mr Rom-rector, and Professor Romano iti and Mr Giuliano Grazioso. Prodi, the IRI chairman - both long-running saga.

lettra and L810bn for Italtel. It The fate of Telit is still hang- was agreed that Fiat would pay

Last February it appeared

Prodi, the IRI chairman - both have managed letely to take extreme positions which leave little room for compromise in the long-running sages. long-running saga.

A brief history of the Telit affair goes like this: Two years nor to be agreed jointly. Fiat inago talks began, with the idea of dicated it would name Mr Rabringing together the state and private companies. A year ago of Telettra, as Telit's president the Telit affair ran into contro- And the candidates for managuersy over the shareholding ing director of Telit were Mr structure and then the valua- Salvatore Randi, the Stet direction of Italiel and Telettra. tor-general who has been a top These matters were resolved executive at both Telettra and In turnover terms the bringing together of Italtel (\$985m of sales) and Telettra (\$420m of per cent of Telit, while MediobRandi, who once worked for the

cal crisis and general elections last spring, its industrial rolicies went out of the window, out of Telit because of the ap-The Telit issue was put off until July when, according to sources close to IRI, Prof Prodi decided to name Mrs Bellisario, the Ital-tel managing director, to the same spot at Telit. Mr Remiti is understood to have told IRI-Stet he thought agreement had al-ready been reached on Mr Ran-di and on the unspoken grounds that Mrs Bellisario had the backing of the Socialist Party of former Prime Minister Bettino

In other words, Plat feared political interference at Telit while the Rome political world feared that with 48 per cent of the shares Fiat would take effective control of Telit.

The climax (if it can be called

that) to the increasingly unedi-fying Telit saga came on Friday, September 18, when IRI put out

sales) still leaves the Italians as anca, the Milan merchant bank, minnows on the world market. Would hold 4 per cent of the But as a first step toward reach
Shares.

Turin group, to Mrs Bellisario, a cryptically worded statement that announced that Mrs Bellisario would get the Telit job. sario would get the Telit job. Five days later Fiat released a When Italy went into a politi-

> pointment All of this came in the wider context of a war of words be-tween Socialist, Christian Democrat and Communist politicians on the one hand and Fiat on the other in which the Turin he was opposed to Mrs Bellisa-rio on the official grounds that and excessive power over the economy. Mr Romiti responded to the criticism by speaking of "anti-capitalist vomit

In this poisonous atmosphere, as one dedicated telecoms exec-utive complained, no one seemed to care about the indus-try. The Italian telecommunica-tions sector, meanwhile, is in dire need of rationalisation and

competition.
SIP, the state telephone utility, buys 80 per cent of Italiel's output and less than a third of Teletira's. SIP spends around L5,500bn a year on telecoms, in-cluding equipment, switching,

transmission, cables, installa-tion and networking materials. Other state companies and the private sector spend a further Li.500bn. making for a total market of L7,000bn. The equipment market in Italy is worth around half the total, or roughly L3.700bn a year.

Aside from Italiei and Telettra the other big players in Italy are Siemens-GTE. Face (ex-ITT, now Alcateli, Fatme (Ericsson) and Marconi. But as one insider in Rome puts it: "The Italian telecommunications market is an inefficient monopoly which s divided among a few big play-

Over the next five years the Italian market has a fair amount of growth potential - it is still underdeveloped by European standards. The equipment market could expand by 25 to 30 per cent a year between now and 1993. But the bitterness created by the Telit battle is not an encouraging harbinger of

Alun Friedman

Business profile: Marisa Bellisario

The jet-setting Socialist

MARISA BELLISARIO is an unusual animal in Italian state industry she is an extremely talented and tough-minded manager who also has a distinct political orientation towards the Socialist Party of former Prime Minister Bettino Craxi. That is unusual in the world of Italian state industry normally Italian state industry - normally one might find talent or party affiliation, but rarely both characteristics in one person.

The managing director of Ital-tel, the Milan-based telecommu-nications equipment company that she brought from \$133m of losses in 1981 to healthy profitability, is today as controversial on the national political scene as her spiky red hairdo and de-signer jeans once were inside industry.

The controversy surrounds her appointment as managing director of the new Italian telecoms umbrella company, Telit, which is meant to bring togeth-er both Italiel and Fiat's Telet-Helsinki, tra subsidiary in one company.

grounds, but because the Turin
company feels she has been imposed on Telit for political ressons. As one executive close to

Marisa 1 Fiat puts it: "How can we run a company if the managing direc-tor will always have the backing of the Socialists?"

of the Socialists?"
Mrs Bellisario, who is Italy's most famous female executive and the author of a best-selling autobiography, called Woman and Top Manager, has denied that her support for the Socialist Party would in any way affect her work at Telit, but in Italy there tands to be much guilt-by-association.

The IRI state holding group has backed Mrs Bellisario, but Fiat the \$200,000-a-year chief executive officer of a company that

Looks are deceptive however: Marisa Bellisario may seem soft-spoken, but she has a steely determination to get her own way, a determination that helped her to slash the Italiel workforce from 30,000 to 19,000 in just four years as part of her textbook cure for the telecoms

determination to survive Fiat's objection to her nomination at Telit, however. She will need to have a great deal of luck and a by-association.

The 50ish Mrs Bellisario (despite having served on a national committee for equality bejet-setting Mrs Bellisario (weektween the sexes she still ends in Turin, a couple of days in Milan and Rome and then on in Milan and Rome and then on the person of prerogative not to reveal her to London, Paris or Frankfurt age) is an unusual figure for each week) is carrying on with more than just her politics and managerial career. For one thing, she looks more like a her appointment to Telit

reached its peak last month she took off for London, where she promptly ran into Mr Cesare Romiti, the Flat managing di-rector who had wielded the veto against her. Just to stress that there was nothing personal, Mr Romiti tapped "La Bellisario" on the cheek during a Fiatsponsored cocktail party at the House of Commons. All of this may be in the best tradition of Italian comic opera, but it did not mask the very real difficulty of salvaging a coherent Italian telecommunications policy, giv-en the current state of relations

Agnelli. Mrs Bellisario's patrons in the Socialist camp are now saying they are not afraid of seeing Italiel continuing on its own, in the absence of a Telit deal. For his part. Mr Agnelli is saying precisely the same thing about Fiat's Telettra subsidiary.



therightpeoplegetic



A foot in the door

RELGIUM'S REGIE Des Tele- towards a more open telecom-

the movement is signt, but along the Flemish-Christian dithe signs are that it is the beginning of the end for the two-company monopoly which has traditionally installed and maintained Belgium's telephone networks. The traditional players are Bell Telephone tion, is a keen advocate of cut-

al players are Bell Telephonethe Antwerp-based offshoot of
Alcatel, the newly-formed European telecommunications giant,
and Atea, a subsidiary of the
joint venture between Siemens
of West Germany and GTE of the
US. The tough new entrant on
the scene is the Brussels subsidiary of the AT&T Philips
combine.
The change comes on two
fronts. The first is the RTT's
long-awaited announcement in
August of a BFr 41bn contract
for the provision of new digital
exchanges, associated equipment and research over the
next five years. By letting in
Philips, RTT introduced for the

gust of a Government Commis-sion to consider bow far to go in gramme it replaces, is a delib-

phones et Telegraph (RTI) is munications industry comes afcautiously opening its well-proter two years of traumatic pub-tected doors to the competitive lic debate. Encompassing the pressures that are starting to lives of two governments, the break down barriers across Eu-rope's telecommunications inustry.

both along political lines and
The movement is slight, but along the Flemish-Christian di-

next five years. By letting in their area. Both Bell and Atea Philips, RTT introduced for the first time in the history of Bellington netting time in the history of Bellington networks a limited element of competition.

We expect that this door equipment in French-speaking Charleroi. A more which has been opened to us will open a little further in the tant to a Government whose surfuture. We are already preparity our hids for the next state. In regional somables.

The main part of the work, worth BFr 25bn, is the provision of 300,000 new lines annually for three years, of which 200,000 go to Bell and 100,000 to Atea, a significant change from their traditional 80/20 per cent carve-up of telephone exchange installations. Moreover, the pair get a further reduction in their allocation in the final two years, when a proportion of the work will be available for an open fight between Bell, Atea

and Philips.
The price for the first stage is BFr 16,000 per line, well below the BFr 19,500 which the bidders had been offering. While the RTT's Mr De Proft admits that the price is still above in-

that the price is still above international levels, he claims:
"We have at last introduced the
idea of competition."

Almost all of the next largest
supply order, BFr 2-5bn worth
of transmission equipment,
goes to Philips. Bell and Atea's
sweetener for having their monopoly eroded at a price lower
than they would like comes in
the form of a big ahare in a BFr
1-4bn per year research budget
over the the next five years.
The aim is to collaborate with The aim is to collaborate with their would-be competitors on

their would-be competitors on the preparation for broad band networks and the new terminals that go with them. Of that total, BFr 100,000 per year has been set aside for small businesses. future. We are already preparting our bids for the next stage, says Mr Marc De Block, managing director of AT&T and Philips Telecommunications (Belgium).

The second key influence for change is the setting up last Au-

In the nearer future, the next sion to consider bow far to go in gramme it replaces, is a delibrative RTT more autonomy. The panel is also considering proposals for dismantling monopolies for main telephone sets, telex sets and some kinds of modems, now supplied by producers chosen by the telecommunications authorities.

Belgium's first tentative step are signal that the RTT is step towards liberalisation will come from the recently wanted above all to abandon launched government telecommunications panel, due to respond to the demands of PTT has already decreed that mobile telephones - currently ministrator general.

MOTOROLA: ADVANCED COMMUNICATIONS FOR A MORE PRODUCTIVE WORLD.



tists in the process room of Philips' Research nout Contre at Eadle

tions, using optical fibres to do the same job faster and cheap-One major issue to be sorted

to be fully liberalised on De-cember 1. Industry experts ex-pect the panel to advocate grad-ual liberalisation for telex sets, now an ACEC monopoly and for main telephone sets, currently restricted to Atea and Bell. Meanwhile, Bell and Atea have started on a joint pilot project to set up a trial narrow band integrated services digital network (ISDN) for 700 aub-scribers, suitably divided be-tween north and south, to open out first is how the country's ca-ble television companies are to be drawn into the ISDN net-work of the future. Belgium is among the most extensively ca-bled countries in Europe, with 90 per cent of its homes con-nected to any one of 40 overlap-ping and incompatible televi-sion operators. The PTT has started talks with the television tween north and south, to open at the end of 1988. This will enat the end of 1988. This will en-able existing copper telephone lines to carry voice, data and video messages simultaneously, and is planned to become com-mercial by 1990, according to the PTT. Further ahead, Bell, ACEC, Philips and Atea are conducting feasibility studies into broad band communicaoperators on sensitive issues such as how they should pay to use the system and how cable television - now outside the scope of the PTI's anthority - is to be regulated.

The Netherlands

The goal: to be even more business-like

rector-General of the Nether-lands' Post-Telephone-Tele-graph (PTT) agency, one might think the government body will see little change when it is pri-vatised on January 1, 1989. The PTT is already profitable

and has been for many years, while receiving no operating subsidies. Telecommunications and postal activities have been divided into two units in anticipation of privatisation.

New telecommunications

New telecommunications products and services are consistently being developed and increasingly advertised. This business-like footing is not so surprising, however, since most companies owned by the Dutch Government make money without subsidies.

But things will clearly about a

But things will clearly change when PIT telecommunications is spun off into a private company known as Nv PTT, whose shares are all in the hands of the Government Ny PTT will compete with the private sector in peripheral products and ser-vices while maintaining a monopoly on the telecommunica-tions infrastructure.

The postal activities involving small and medium-sized letters will remain a state monopoly, but heavier items and printed matter will continue to compete against the private sector, as has been the case for some time. Employees of Nv PTT will lose their civil servant status and work under market-orient-ed labour contracts. Ambitious modernisation programmes through the turn of the century will require around FL 25bn a year in investments so Nv PTT will probably tap the capital markets soon after its privatisa-

fron.

"Profitability will be our goal," Mr Wit explained during a recent interview at his head-quarters in the Hagne. "We must have profits, although sometimes we already have more than we need."

than we need."

As a veteran of European telecommunications, Mr Wit is particularly well placed to steer the government agency through its transformation into a private company capable of competing against the world's major telecommunications concarns. He has worked for the Dutch PTT for 30 years and has negotiated with the trade unions so defly that bitterness over losing civil servant status was kept to a minimum.

some of the same concerns that have been its suppliers - Philips

Sweden and International Telephone Telegraph (ITT) of the US, whose European activities have now been combined with Acatel of France - as well as other leading companies when

it goes private. Since Philips, Ericsson and Alcatel will remain suppliers for Nv PTT they will be compet-ing against themselves, in a sense, but Mr Wit is confident that Nv PTT will not suffer. There will be carefully word-

ed contractual terms to ensure that companies don't try to un-dercut the PTT," he says. The two major market seg-ments for both Nv PTT and the rest of the industry are consum-ers and business, with the latter ers and outsiness, with the latter growing faster than the former. Nv PTT will serve both seg-ments although Mr Wit firmly refuses to disclose how big a market share the newly priva-tised company will aim for.

Development of innovative products and services is seen as much less difficult than marketmuch less difficult than marketing and selling. Our know-how will be increasingly sophistication of the consumer call expertise and marketing skills are lacking. Mr Wit concedes. emphasised and the trend will be toward more sophisticated

"So far we've operated in the moderate price category so we have room to move upscale in quality," he observes.

In the business sector custom-

In the business sector custom-er service will be even more im-portant because enterprises can hardly afford to be without telecommunications lines for long. Several years ago the PTT launched a glossy marketing campaign and opened colourful telephone shows to advantice telephone shops to advertise the latest in private automated branch exchanges (PABAs), ex-tic home talephones and fac-simile transmitters (hx).

More recently a department has been established to help draw foreign companies to the Netherlands because of its ad-vanced telecommunications in-

The department's first success was scored last month when Tandem Computers of the US announced plans to set up a European headquarters around Amsterdam's Schiphol Airport, in part because of the facilities promised for teleconferencing. During the Telecom '87 exhi-bition in Geneva, from tomor-row until October 27, PTT telecommunications will have a "tele-auction" in which visitors will be able to buy flowers from Aalsmeer in the Netherlands via a two-way video and computer link-up. The tele-auction is designed to show how compa-nies in the Netherlands can use



teran of the Europe nications scene: Mr Cor Wit, director-general of the **Dutch Post-Telephone-Telegraph**

their transport and distribution

PTT telecommunications is also participating in the FI 16bn teleport office park now being built to provide hightechnology office space for com-panies in telecommunications, information processing and au-tomation, especially those seek-ing a European headquarters. A huge satellite dish and integration into Amsterdam's fibre-op-tic network will allow the latest in office automation such as val-ue-added networks (VANs) and video conferencing

Despite the new era of compe-tition that is on the horizon Mr Wit foresees no need to raise telephone rates in 1989 and expects international and intercontinental tariffs to fall next year. Rates for telex, fax, viditel (videotext) and other sophisti-cated services also could de-

cated services also could de-cline as users grow in number. One of the most competitive areas for Nv PIT will be pri-vately-owned VANs, the com-plex link-ups of telephones, tel-ex, fax and computers. VANs are the key to the future of high-tech telecommunications such as message routing, elec-

was kept to a minimum.

Since PTT telecommunications is already in the black, Nv PTT sogal will be up a posting profits when labour neposting profits when l

cessing.

Ny PTT will maintain a monopoly over installation and maintenance of the telecommunications infrastructure - telenications infrastructure - tele-phone lines and public switch-ing systems - and is obliged to provide lines upon request. But if Nv PTT has too little time or money to instal the lines, then private companies can set up their own VANs on cable or op-

their own VANs on cable or op-tic fibre. No purely domestic satellite link-ups are allowed because the country is so small and crowded that the air-waves would be even more jammed. Mr Wit is not especially wor-ried about heavy competition from private businesses want-ing to create their own VANs al-though other telecompunion though other telecommunica-tions agencies that have gone private in recent years have feared cut-throat competition. I see no real problem or threat because the PTT will be able to supply most lines," he says sim-

oreover, the lines supplied

ed types such as digital optical fibre, integrated services digi-tal network (ISDN) and broadband ISDN. At the moment a Fl 7bn, 10-year digitalisation programme is being carried out to replace all the country's old-fashioned analogue public switching systems with digital ones and old telephone cables with optical fibre.

This programme is due to be finished by 1995 but by the early 1990s the second phase will begin - installation of ISDN to allow more peripheral equipment to be connected at one spot. For example, a video telephone, computer and telex could all be tied into the network at one

The third phase will be broad-band ISDN, which is to be in place by the turn of the century to transmit cable TV and high-definition TV in addition to all the other traffic. The whole modernisation peowhole modernisation pro-gramme through the year 2000 will cost around Fl 25bn a year, Mr Wit estimates.

To finance these long-term investments, Nv PTT will go to the capital markets. Mr Wit expects Nv PTT to tap the markets shortly after privatisation at the beginning of 1989.

The current transition period The current transition period, moving from analogue to digital technology, has been fraught with problems, however. Bottlenecks have occurred in telephone traffic as the old switching systems have been pulled out and the new ones installed. Telephone lines have been jammed, domestic callers have been unable to make outgoing een unable to make outgoing calls and foreign ones unable to make incoming calls.

At one point last year a group of Amsterdam companies was so angry about business lost due to poor telephone service that it threated to sue the PTT. Since then the agency has completed a F1 200m plan called SNEL to untangle the worst bottlenecks.

But the Amsterdam area remains problematic and another FI 380m is being spent this year and next to speed up digitaliss-

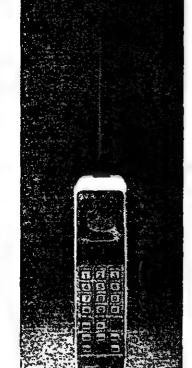
The telephone traffic jams are the fault of both the PTT and its suppliers, according to Mr Wit. He accepts part of the blame because the PTT underustimated the growth in commu-nications traffic and the burden on the infrastructure placed by increasingly sophisticated pe ripheral equipment

But equally at fault are the suppliers, which are the joint venture between American Telephone & Telegraph and Philips (APT) and Ericason. APT has encountered serious delays in the development of its 65-RPX switching system, which was adapted for the European market from AT&T's switch for the US market. The software has repeatedly proven inadequate and has had to be rewrit-

They (APT) can't deliver on time and that's the core of the problem with telephone traffic problem with telephone traffic bottlenecks." Mr Wit says. Not till the end of next year will the Amsterdam problem be com-pletely solved, he admits.

in a recent edition of the PIT's in-house newsletter Mr Wit used a sports analogy in a bid to elicit more co-operation from labour unions in agreeing on "market-oriented" contracts.
"It is actually just like auto
races," Mr Wit wrote. "Whoever races," Mr wit wrote. Whoever, runs the fastest training round gets to stand at the front of the starting line. We must ensure that we are standing at the front on January 1, 1989 because that gives us the best chance for the future."

Laura Raun Amsterdam



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sel, "irts" - helping to key new links to meet the

ireland

Substantial progress

ON MAY 29 this year, Mrs Florence Buglar achieved instant which had also been recomfame, at least for a day. Mrs mended by the review board Buglar's face adorned the front covers of the Irish press as her turn of the decade, Ericsson of manned telephone exchange in Sweden and the French compathe small market town of Mountain the small market town of Mountain tracts for installing digital extends.

last manned telephone ex- in hand with a programme to re-change marked another step in duce Telecom's workforce the transformation of what was once one of the most antiquated telecom networks in Europe.

At the turn of the decade, the tary severance scheme is still

At the turn of the decade, the firsh telephone service was something of a nightmare. American companies operating in the west of Ireland were still of its investment programme calling head office back in the was funded by foreign loans and US via operators. The general interest charges have been runcall failure rate was high and some places had no service at all.

After spending 161 3hp so far the decayture of Mr Tom Syrpes.

After spending I£1.3bn so far the departure of Mr Tom Byrnes on a re-equipment programme as Telecom's chief executive in through the 1980s, things have improved substantially. Apart been resolved by an agreement

reann, the state-owned company, nor with its customers. The company has been making months to April this year. This losses, though much reduced figure is after interest charges from a few years ago. Some and allowing for currency types of calls are ferociously exmovements. Operating profit for pensive.

Telephoning last year was IE117m, up by out-of-the-way spots in Conne-mara or Donegal often produces out 12 months. connections with awful interference of the "salt and pepper" va-

complain of delays in repairing the previous year. Assets now phones and difficulties in getting directory inquiries though these problems are carried.

Some 75.000 lines.

At the end of the 1970s the livest level for many years, the lowest level for many years, the lowest level for many years, the country's telephone service had to change. Here was a small country trying to attract foreign companies but offering them an entitled the country in the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached to 22,000, the lowest level for many years, says Telecom. The household penetration rate of 11.17p, irrespective of 11.17p, irrespectiv antiquated means of communicating with the outside world. It was suitable, just, for a rural economy but not much good for industry.

strikes by workers in the country's postal and telephone services brought the system to the point of collapse.

postal and telecommunications services should be split and the latter removed from the civil service. The process of change was eventually completed on January 1, 1984 when Telecom Eireann was formed as a state-owned but independent company with no access to government which its aventually completed on Europe. Through this, people can access direct into the data base of Golden Pages, the Irish version of the UK's Yellow

subsidies.
While all this was going on,

tshannon, Co Clare, was tracts for installing digital ex-switched off for the last time.

The replacement of Ireland's Since 1984 this has gone hand

manned exchanges, some 40 per course for its target of breaking serviced by digital exchanges.

That is not to say that everything is well with Telecom Eight on the state owner of the state owner. loss of I£24.3m in the following year and one of I£8.2m for the 12

Growth rates appear to be greater than Telecom was bankriety.

The speed of putting in new gat. Actual traffic increased by lines has been so rapid too that between and 8 and 10 per cent a many of these lines are, at the moment, almost "open" with a Turnover to April 1967 was

these problems are certainly stalled last year and customer not unique to ireland. stalled last year and customer orders were reduced to 22,000.

duration. From payphones, however, the call rate is 20p with a five-minute limit from the new style payphones.
Telecom's monopoly

This unsatisfactory position seems pretty secure. Apart from was underlined when two long its exclusive control of the internal network it is the only au-thority with a licence to operate international services. It re point of collapse.

A government-appointed review recommended in 1979 that postal and telecommunications international services. It recently inaugurated a new satellite link for business users to the US. Modems, teleprinters and PABXs have been deregu-

One thing Telecom does seem

<u>Austria</u>

An improving image

REGULATION DOES not mean two months to under three public network should upset tion. The new company, however inefficiency and abuse of a moweeks - of course if there isn't a people. nopoly. This is the message now being promoted by the Austrian Postal and Telegraph Administration (PTT), the one and only tate-run organisation which looks after the country's ex-panding telecommunications network.

is looking at ways to make regu-lation a decent and flexible in-strument which can satisfy the strument which can satisfy the growing demands of the Austri- The PTT today recognises 228

One of the people behind improving the image of the tele-communications industry is Dr Josef Sindelka, general director of the PTT. From a population of over 7m, Dr Sindelka has to take care of 2,818,437 telephone subscribers and 26,000 telex subscribers. Use by Austrians of the cordless telephone has increased significantly over the increased significantly over the increased significantly over the costs for doing this simincreased significantly over the past two years. More than 25,000 have ready been installed, with the PTT keeping a very strict control over the phone charges.

weeks - of course if there isn't a little sceptical. One colleague has been waiting for up to two months for a phone.

public network should upset tion. The new company, however, must conform to PTT's specifications. Under this scheme, the PTT has choice and quality in terms of equipment and skills combined with domestic development with foreign co-

ficult to find a PTT engineer to Sindelka.

types of modem. However, under Austria's telecommunica-tions regulations, only PTT en-gineers can fit modems to the telephone system.

The costs for doing this simple piece of work is high. Even
more frustrating and this is not
the PTT's fault, is the unavailaTelecom Canada. PTT has man-

to two months for a phone.

Just as much as the journalto modernise the country's teleaware that several of the telecommunications systems in Europe are under criticism for being over-regulated, inflexible

sist and computer buffs are very communications system. Any
critical of the availability of visitor to Vienna will note immodems and back up for their mediately how many telephone
systems. A few years ago, it
modernize the country's telecommunications system. Any
critical of the availability of visitor to Vienna will note immodems and back up for their
mediately how many telephone
numbers have been changed.

That's because we are moving ing over-regulated, inflexible would have been impossible to "That's because we are moving and adverse to any degree of find a modem in Austria. It over to a fully electronic digital privatisation, the Austrian PTT would have been ever more dif-telephone system," explains Dr

> brighter than some of its European counterparts. The work, which consists of installing two new exchanges in Vienna with 10,000 lines each and eventually the whole of Austria at a cost of Sch8bn (US\$ 620m), is being carried out not by PTT but by two sets of contractors: Siemens Austria and ITT Austria both working under licence from Sie-mens Munich.

The second contractor com-bines Kapsch and Schrack, two the PTTs fault, is the unavailability in Austria of simple electronic spare parts. Cables for printers, for instance are in short supply.

Higher Interacting and this is not under licence from Northern Telecom Canada. PTT has managed to bring the two groups to gether under one joint company.

Austrian Telecommunications GmbH. These figures are meaningless, however without considering the kind of services available to the Austrian consumer.

Dr Sindelka says for example,
that the waiting list for a telephone has been reduced from

The PIT's tault, is the mayasitatallecom Canada. PIT has managed to bring the two groups together under one joint compatomprinters, for instance are in
able to the Austrian consumer.

Dr Sindelka says for example,
the role of the PIT in linking
private equipment with the

Telecom Canada. PIT has managed to bring the two groups together under one joint compatrulecommunications GmbH.

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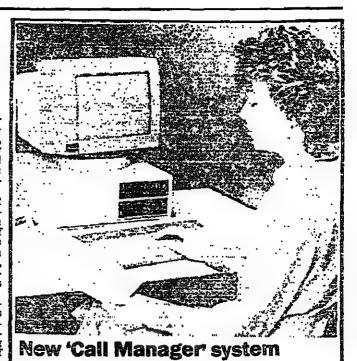
The two groups together under one joint compatrulecommunications gmbH.

operation.
In the meantime, PTT has set up a telecommunications development company, (OFEC) which supervises the installation of the digital phone system. The That's because we are moving PTT holds a 51 per cent in over to a fully electronic digital oFEC, with Kapsch, Schrack, elephone system, explains Dr Sindelka. Siemens Austria and ITT Austria each holding equal shares of the remaining 49 per cent. As work continues on the Vienna exchanges, PTT has its sights on building new ex-changes in Graz and Linz, de-

signed and constructed along the relatively flexible lines of the Vienna system. The costs all add up. Instaliation of new exchanges, the com-pletion of the new East-West central radio link and refur-bishment of buildings and a

modernisation programme will cost the PTT Sch 11bn. Its gross receipts however have increased by 6 per cent in 1986 and its heavy charges for the consumer, which Dr Sin-delka says are competitive when compared to other Euro-pean phone charges, ensure adequate cash flow for forward planning.

Judy Dempsey



THE SWISS pavilion at Telecom ents, plus traffic flow aualysis 87 is set to become the European which details the peaks and launch pad for the microcomputroughs in a company's telecter-based 'Call Manager' system, phone traffic. Shown here, the latest development from ASL (Automatic The Call Manager system can Switching), the UK manufacture interfaced with other business of call-management systems. A member of the newly-formed ta-based management package Swiss Ascom group, ASL supposites telephone call-logging cessing - allowing the system to systems and equipment to Britical Call Manager's features in system for monitoring telephone clude client-billing for recharge traffic on private wires and di-

clude client-billing for recharg- traffic on private wires and di-ing calls made on behalf of cli- rect exchange lines.

Ouick, my reading glasses, the phones

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MANUAL []

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The 8750 is a digital switching system that allows you to transmit or receive data over the phone - but still keep on talking.

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Problem-solving is speeded up because the

8750 lets you rapidly pull together all the data you need to make decisions.

Less time is wasted on telexing and faxing. And since the 8750 works as well between floors as it does between continents, efficiency is improved in every part of the business.

The 8750 can handle up to 3,000 extensions. That means even in the largest companies everyone can benefit.

But the 8750 is much more than an advanced phone system. It's a step towards the day when ali organisations will have integrated communications systems that can interact with each other.

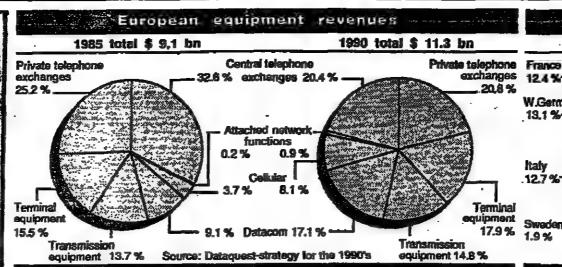
As that day gets nearer it may be useful to remember two things.

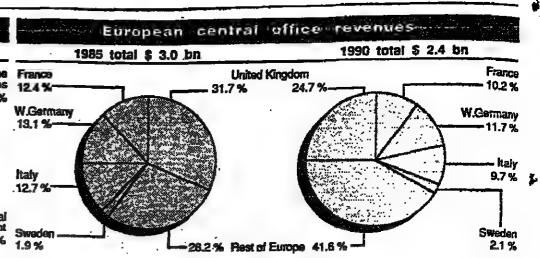
First, so its customers stay ahead of the game, IBM is building on the 8750 to develop a full range of advanced telecommunications products. Second, start keeping your glasses close to the phone.

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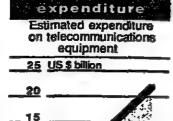
Source: Dataquesi

Spin-offs from defence

Many innovations in communications have been levaloped originally for the

Pictured above is a Ptarmisar mobile subscriber unit, mounte in the back of a Land Rever. Ptarmigan was designed for the Entition Array in Germany to provide secure facilities for mobile and olated subscribers. Multiple role systems, which provide an integrated range of ntolileest communication inducts, based on Eurocor rds. have also been

laveloped from this equipmen



Russia's

1987

Source:TIR

Soviet spending on equipment could top \$20bn a year by 1995

and will probably increase its imports from the West.

These are the conclusions of a stone squipment this year to 1995.

These are the conclusions of a Telephone set expenditure

These are the conclusions of a report by Telecommunications industry Research, which has looked at the Russian plans in some detail. TIR's forecasts are based upon some big imponderable items, notably that the Bussians can achieve their aims, and that certain high technology products will be freed from the restrictions on exports pushed through under the agreed West-ern formula on sales to the East-ern bloc. But if these events come to pass, the TIR report sug-

The market could grow from cities. Some estimates put total around \$3.6bn for telecommunicable demand at \$00,000 kilo-

should grow from \$451m in 1986 to \$1.1bm in 1990.

The number of telephones in bloc countries and some developing will jump from 30m last year to 48m by 1990 and 180m by the year 2000.

"Eights new count of Province."

"Inc. Bulk of those imports will come from other Eastern bloc countries and some developing nations. But experts from the Year 2000.

Sistem by 1990 from \$27m in

Almost 44m lines will be dig-

italised by 1995.

There could also be a hefty expansion and renewal of the cable network, with fibre optics being introduced to the main

ital exchanges which do not fall foul of the West's prohibitions on high technology exports to Rus-sia. Its exports in 1984 were esti-mated at \$25m.

The TIR assessment of the likely growth in lungerts is based

The TIR assessment of the likely growth in lungarts is based on the mismatch between demand and supply if Russia's plans go to order: TIR believes, for example, that it is unlikely that the domestic industry will be able to produce more than a third of the target figure for digital lines. metres a year.

Imports in 1990 are forecast to rise to 37 per cent of total domand, or almost \$5hm.

The bulk of these imports

Most of Russia's imports at resent come from the Easiern and ture indicated a de worth abour \$1bn. From the West, the main exporter is Fin-land, which has strong trading links with Russia, and which has developed a range of smaller digrity as an ant

Al the same time, the Russians are indicated that they want to a increased trade with the West, tion to push shead with the mod-eraisation programme by estab-lishing the public telephone

Poland

One of Europe's poorest systems *

MOST OF Peland's new high rise housing estates are a tele-communications wasteland, re-lieved only by the occasional lyphone. But there is one block of flats

n southern Warsaw, the capital, where each resident keeps his receiver at home. Whenever anyone needs to telephone, h takes his instrument down into the front hall and switches into a line left after vandals long ago lestroyed the original pay-

No one from the Post Office, which has a telecommunica-tions monopoly, has ever been to repair the damage, even if it was reported. The residents are certainly not making a fuss now. with free access to the phone, system at home and, wherever direct dialling applies, abroad. The situation is not surprising with the country's under-capitallind phone system which, at 10.32 indephones per 1,000 population (8.64 in the countryside), is one of the lowest indicators in Europe. Overall, Poland has 280,300 lines, nine-tenths of which are automatic. The fig-ures are, however, not that far behind Hungary, which has 13 telephones per 1,000 of the pop-

Waiting times for the installa-tion of a new phone are, howev-er, dramatic, with an average of 13 years. There were 130,000 new connections in 1985 and the waiting list in that year stretched to 1.7m. Plans for exscreened to Lym. Figure for ex-pansion are modest, to say the least, and the 180,000 yearly connection target for the mid-1990s means that waiting times will have stretched to over 20 years by then.
As:a result, many Poles use

Bank estimates that it is quite capable of supporting an expantion of the domestic network. Restrictions on imports of the

vate calls, including calls abroad. There are direct con-

nections to, among others, France and the UK, but not to

West Germany and the US. Calls to those countries can take hours before the operator makes a connection.

The quality of the service at

home is also poor, with 15 com-plaints per 100 customers per month, and the number of faults

per 100 customers per month is

There are 32.131 telex lines, of which 29,606 are connected to subscribers and the rest in post

So far, the Polish authorities

seem to have remained deaf to arguments that expanded tele-

enmunications at home can improve efficiency and con-serve energy and that they are vital if foreign trade is to be

investment plans, therefore,

At the same time, the country's telecommunications manu-

facturing industry in the Telcom grouping has some digital electronic capacity licensed from CIT-Alcatel While the

present technological level is not the most modern, the World

just over 10.

successful.

remain modest.

latest Western technology, imposed by the Cocom committee, are a problem but experts maintain that, even without such purchases, if the Government decided to spend more money, the situation could be improved

Major effort to update network

A SPLENDID pelsee in Lisbon houses the headquarters of Por-ingal's Post Office and Tels-

phone Corporation, CTT/TLP. It was built in the 18th century.

Disgruntled telephone subscribers occasionally suspect their telephone system was built about the same time. Saturated exchange worse.

their telephone system was built about the same time. Saturated exchanges, wrong numbers, crossed lines, descents into twilight ropes where you dial a Loudon office and get Britain's speaking clock, promise adventure when you pick up your sturdy Bakelite Portuguese handset.

But times are changing. The CTT/TLP is investing Essobn (250m) a year until 1989 so as to whip services, equipment, staff and management into ultramodern shape and steer telecommunications towards an integrated systems data network. The chairman of CTT/TLP is Mr Jose Viana Baptista, former Minister of Public Works and president of the Foreign Investment Institute. He takes visible pride in describing the tough task he faces of shoving Portuguese posts and telecommunications forward 30 years in the space of seven.

The company is Portugal's biggest employer: the CTT has

space of seven.

The company is Portugal's biggest employer: the CTT has 30,000 employees, the TLP 12,000. The latter was the Anglo-Portuguese Telephone Company until its 99-year concession ran out and it was absorbed by the state. It runs the Lisbon and Oporto telephones: the CTT runs the telephones elsewhere.

phones; the CTT runs the telephones elsewhere.

The CTT/TLP nowadays is
that rarity among Portuguese
state-run enterprises: virtually
self-financing, with a 1986 aggregate turnover of Es 135bn
(\$945ml. Corporate impact on
the economy is such that in every Es 1m of income generated
nationally, the CTT/TLP accounts for Es 30,000; in every Es
1m invested nationally, the
CTT/TLP is responsible for Es
42,000 and it employs 10 in every
1,000 members of the labour
forts.

on the industrial side parts of telecommunications that have been a monopoly or sheltered until now may be diversified. The tremendous growth in demand for telephones - 45 per telephones in Lisbon telephones. mand for telephones - 45 per cent growth a year in Lisbon and Oporto where the ratio of subscribers at 24 per 1,000 is nearing European averages calls for changes in manufacturing, purchasing outlets and installation of telephones. In Mr Viana Baptista's view, competition is the magic formula.

Next year Portugal will launch mobile car phones, vi-deotext and off-site paging, first in the Lisbon area, then Oporto and the Algarve and, finally, na-tionside

Work is proceeding at speed on new digital switching ex-changes, replacing the over-loaded old automatic exchanges in Lisbon and the suburbs. The first three digital exchanges are due to come into service soon.

Digitalisation. for which equipment is supplied by two groups - Siemens with its Portuguese partner Centrel and ITT's German plant with ITT's Portuguese subsidiary Standard Electrica - is the linebpin of Mr Viana Baptista's three-point revolution:

revolution:

A qualitative leap into an integrated digital system where acoustic, optical or data signals can be received and transmit-ted harmoniously on tele-phones, home computers, tel-

exes or other equipment;

A dramatic increase of material available to the public,
which means shorter waiting A as a corollary of increased quantity and quality, lower

Portuguese telecommunica-tions prices are reasonable by European standards, but in-comes are low. The CTT/TLP wants to spread its net wider for suppliers of equipment in order to reduce costs.

Long a sheltered industry, Portuguese telecommunica-tions equipment manufacturer-ers worked on exclusive conces-sions. No competition meant no hurry: subscribers often had to wait years before they got their telephones.

Now the CTT/TLP wants three-year contracts that can be rolled over for another two years if supplies of telephones, cables and optical fibres are satisfactory. satisfactory.

At the same time, it wants to liberalise telephone sales: if someone wants a purple plastic phone and a neighbourhood freelance dealer has such a treasure on offer, he should be free to satisfy his taste, but must rent the line from the telephone rent the line from the telephone Cempany.

If he wants a free-lancer to instal telephone wiring when he builds his house, this should also be possible according to Mr Viana Baptista.



The new NTT is only two-years old. But it has a history of more than a century!

Two years ago, NTT was transformed from a government monopoly to a private company in a competitive environment. NTT's basic goals, however, remain unchanged. The company's ideal is to allow every person to contact more people and have more access to more information than ever before. The natural result of this commitment to human contact and human knowledge is implementing the most advanced technologies.

To achieve our aims, we have intensified R&D activities. We also welcome equipment from vendors and manufacturers worldwide that

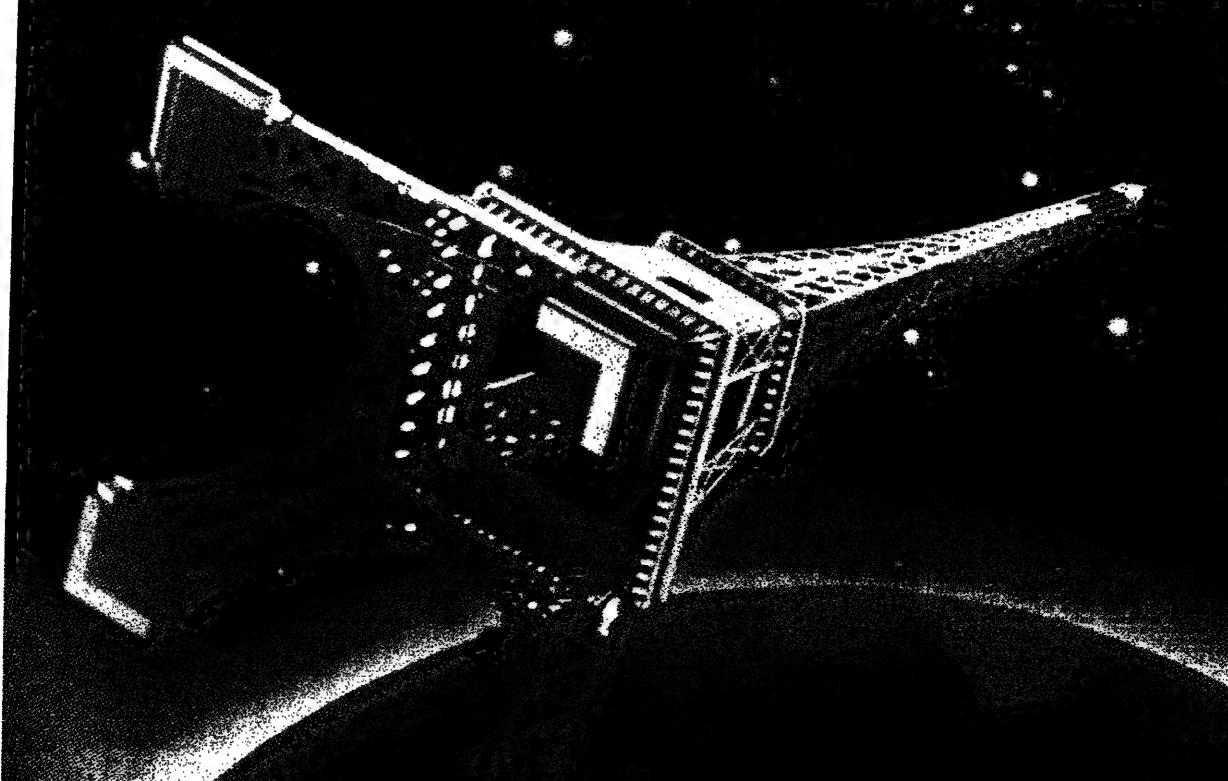
will enhance the scope and quality of our services. And we offer our advanced technologies in telecommunications and data processing to the international community through our subsidiary NTT International.

NTT keeps an open mind. We invite everyone to participate with us in meeting the challenges of truly compatible global information networks for the next century.

For Telecom '87, NTT will exhibit at booth 5.101 a prototype for ISDN network services which conform to CCITT recommended I-series interfaces. NTT plans to begin commercial ISDN service no later than April, 1988.



GAIE VAY OTHE WORLD

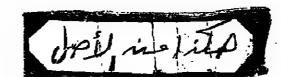


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The US industry

Cost equations get trickier

Long-distance tariffs have fallen 20 per cent since the break-up of American Telephone and Telegraph's Bell system in 1984, according to an index compiled by McGraw-Hill, and they could fall further. Moreover, heavy spending on equipment by new carriers has made the quality of their lines comparable to AT&Ts.

New York-based organisar represents 30 of the largest ers in the country. "Users it to be much more sophistics in identifying the long-term plications of new policies."

One of the most content issues at present is a proper from Washington that telephone companies levy an acceptance of my to \$5 an hour comparable to AT&T's.

But the cost equations are get-ting trickier as federal and some state governments become increasingly active in policy areas. Washington, for example, is trying to find ways to squeeze

more tax revenue from some forms of telecommunications. Some states have pushed energetically toward further deregulation of telecommunications within their boundaries, while others have been more cau-tious. Typical of the more active role some states are taking. New York has reclassified telenew fork has reclassified tele-communications equipment as real property and begun taxing it like a building. Thus, a user might find it far more cost-effec-tive to set up new equipment across the river in New Jersey.

JUST WHEN US telecommunications users thought it was safe to sit back and enjoy lower costs brought by deregulation, their life has become a good deal more complex and uncertain.

Long-distance tariffs have fallen 20 per cent since the break-up of American Telephone and Telegraph's Bell systems.

Communications managers have to become something of policy analysts, says Mr Kenneth Phillips, chairman of the Communications Users. The New York-based organisation represents 30 of the largest users in the country. Users have to be much more sophisticated to be much more sophisticated in identifying the long-term im-

plications of new policies."
One of the most contentious issues at present is a proposal from Washington that telephone companies levy an access charge of up to \$5 an hour on users of value added networks. VANs were originally exempted from the charges when the Bell system was honken up in 1984. system was broken up in 1984 because information suppliers

were struggling to get them off the ground. Many, though, are still fledgling operations and access charges would kill them off, Mr Phillips says.

One major regulatory question Washington settled last month was whether the Baby Bells, the seven regional telephone companies spun off from AT&T in 1984, should be able to expand their services. They were denied their wish to offer long distance communications and to manufacture equipment, and to manufacture equipment, two key areas reserved for their former parent under the break-

The regionals were allowed, however, to offer value added products, such as voice storage and answering services, on their local networks. The seven, which have capitalised aggressively on their opportunities in their short lives to date, expressed great disappointment.

AT&T, however, was delighted. It has given up less than 20 per cent of the long distance market to competitors since its break-up but it did not relish the prospect of taking on the Baby Bells as well in a fiercely competitive field. AT&T has driven down its long-distance tariffs to the point that they are close to those of MCI and US Sprint, its two major competitors.

The competition has acceler-

Now it looks as though the ma-jor carriers will have complet-ed the task next year.

But the heavy capital spend-ing at a time of intense price competition has run up huge losses for the new carriers. MCI lost \$448m last year and Sprint could lose more than \$500m this

year. Both companies have fought to contain costs and are credited with improving their customer services. They have also eased up on the drive for market share. Customers also say that AT&T has sharpened up its wits and performance in the face of competition. But some fear it will adopt predatory pricing strategies to win back customers and then rates would rise again if AT&T sufficiently weakened its competitors.

This may be too pessimistic a view, however. The Federal Communications Commission, the industry's watchdog agency in Washington, has proposed changing the way it controls.

AT&T prices and profits. Currently, the main mechanism is the rate of return on its capital

It is argued that this minimises AT&T's incentive to cut costs, innovate and promote competition. The proposed alcompetition. The proposed al-ternative is a cap on prices which would only allow them to rise at a rate slower, for exam-ple, than that of inflation.

It looks likely that caps would be coupled with floors and oth-er controls on AT&T's prices. These moves should reduce AT&T's ability to price predato-rially and should reduce its pri-cing flexibility, mitigating many



nge section of the main tradi

of the concerns about AT&T's ability to price against MCI aggressively, says Mr Robert Morris, a securities analyst with Prudential-Bache.

Although some people on Wall Street are warming to MCI's stock as it tackles its problems, the general feeling about Sprint is far more can be seen tions. The change of are still heavy. Given the financhial pressures on the carriers.

and a trend for local operating and a trend for local operating companies to squeeze more from existing equipment, capital spending has been on a platean of around \$25bn a year since 1985, according to research by Telephony, a leading industry publication.

<u>Spain</u>

Divorce with a difference

THE TELECOMMUNICATIONS sole Spanish institution to have industry in Spain will remember 1987 as the year the Government unveiled its long-awaited legislation regulating the sector, the Ley de Ordenacion de Telecomunicaciones, which is

nications? Will Telefonica, the evergreen holder of the monopoly, be spurned as the public turns to attractive new talents?

Telefonica, which for better or for worse has served Spain for 60 years, and its host of stockholders may rest assured. In the first place, the state, which fully intends to continue owning the major chunk of the monopoly's assets, will give the monopoly's assets, will give the company a more than handsome

be liberalised. The approval of terminals and other props will, under LOT, be taken from Tele-fonics and come under the re-sponsibility of the telecommu-lations broach of the branch of

Transport Ministry.

Deregulation, Spanish-style,
has been on the drawing board for well over three years, giving Telefonica ample time to adjust. And, since the Socialist Government came to power in 1982, the national telephone company has been given every encouragement to exercise a leadership role in the develop-ment of national high-tech.

Such has been the high pro-file exposure of Telefonica in the years preceding the LOT that the shape of telecommuni-cations to come in Spain is better illustrated by the plans and expectations of the national telephone company as it approaches the 1990s than by the

cent fund-raising moves are ex- companies. amined. The company is in the midst of a huge financing pro-gramme that involves bonds and commercial paper issues but attention has very recently been centred on a rights issue that could raise Pta 75bn

This latest move comes on the heels of a share offering on Wall Street that raised \$375m and which amounted to a break-through for a Spanish company. The assault on Wall Street was the final round of a carefully planned strategy and came af-ter the company had successfully tested the waters of the Lon-don, Paris, Frankfurt and Tokyo

money markets. Telefonica's exuberant and energetic chairman, Mr Luis So-lana, was not for nothing a banker and a stockbroker before he was appointed to the job in 1982. He is also a lifelong So-In 1862. He is also a microng Socialist and a former MP, as well as a political prisoner in the Franco years. The latter qualifications, added to the fact that he is the elder brother of Mr Javier Solana, the influential Minimum and Culture of Culture must him on the ister of Culture, puts him on the inside track of Cabinet policy. The Wall Street offering was

ne wall Street offering was underwritten by some 60 institutions, headed by Goldman Sachs, Merrill Lynch and Salomon Brothers. Previously Standard and Poors had awarded Talefonica. dard and Poors had awarded Lot's wife would never have Telefonica an Al-plus rating turned her head. and Moody's a P1 for short-term financing and the dual ratings meant that Telefonica was the

achieved an equivalent status to the one afforded to the King-

dom of Spain.

Telefonica is the chief surflegislation regulating the sector, the Ley de Ordenacion de Telecomunicaciones, which is known as LOT.

In principle, the LOT deregulates the industry. So where does that leave the faithful thought the demand curve spouse of Spanish telecommunications? Will Telefonica, the awares when indicators showed it was carrying the a convince to it was growing by a further 20

The realisation forced the company back on to the drawing board. At the end of 1966 Tele-fonica had approved a Pta. 1,300bn investment programme i, but in investment programme to cover the company through to 1990. This was an 80 per cent increase on its previous four-year investment plan and upped the outlay by Pta 500bn to a grand total of Pta 1,800bn.

company a more than handsome living allowance. Secondly, Telefonica will not be looking back at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Property in Part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves behind. In part, the urgent call on Teback at what it leaves the source of the excitement general at which will be a summer Olymp

commemorate the South anniversary of Columbus' voyage of discovery to the New World.
The 1983 fever has hielled Telefonica's ambitions in other high-tech fields. A priority is the installation of a videotex service, which the company is to market as Ibertex, that will allow telematic access to data banks. The aim is to have 500,000 subscribers by 1992.

It is precisely in such areas that the world outside Telefonican hope to score as the LOT deregulation comes on line. Even if Telefonica keeps the lion's share of the Spanish market, the crumbs from the table will be substantial. Telephone purchases, for example, are running at 50 per cent up this year on the 1986 figure and esti-mates, which may well be con-servative, speak of a further 30

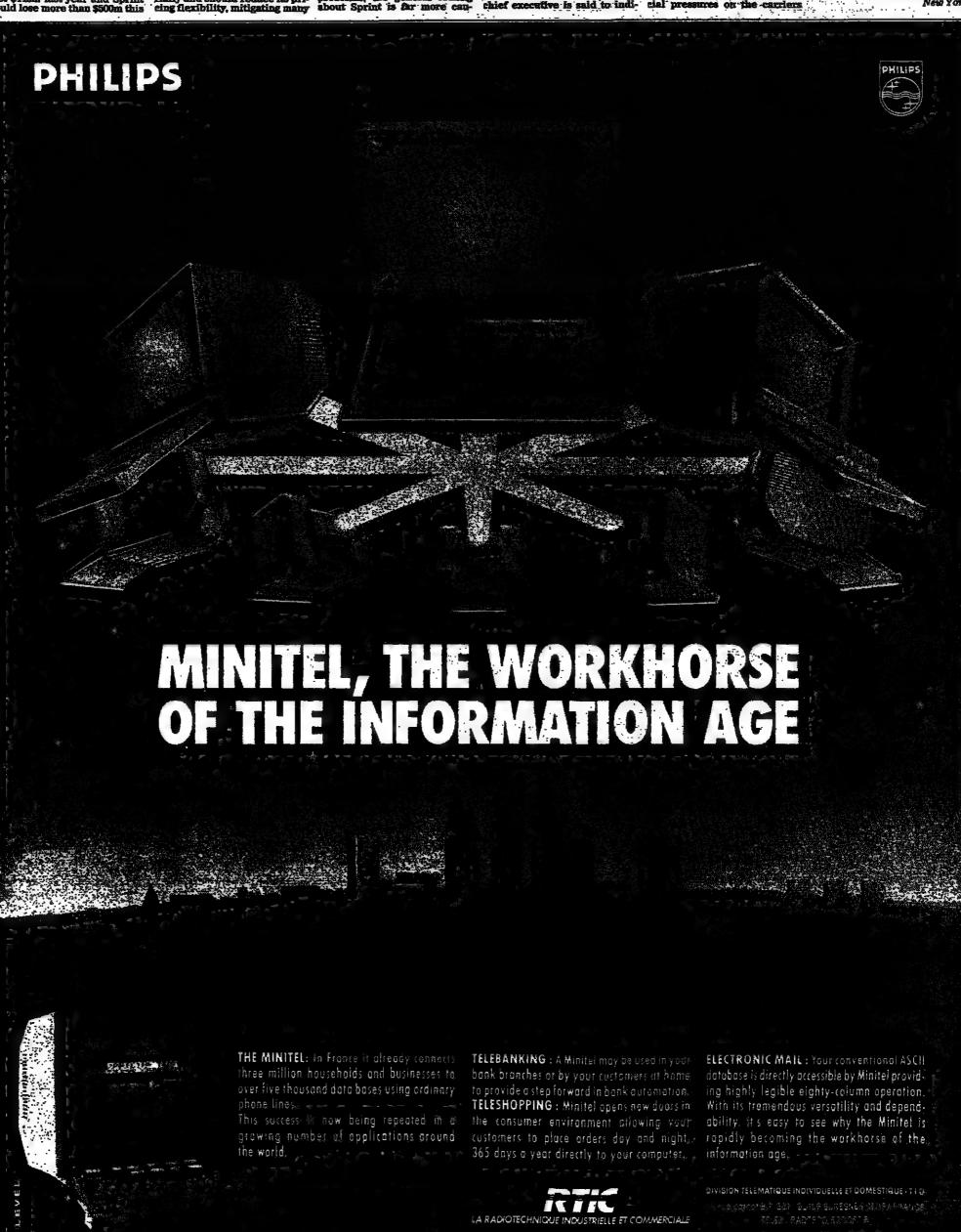
per cent hike next year.
In the meantime, Telefonica continues to live up to its repuproactives the 1990s that by the continues to five up to its reparactual guidelines of the deregulation law.

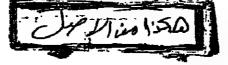
Telefonica's ambitions are immediately obvious if its rebold innovation among Spanish

in straight telecommunica-tions, Telefonica brought about something of a coup by unveil-ing plans to instal a telephone factory in the Urals to manufac-ture sets called Tarsis that have been designed by Telefonica with the Soviet climate in mind. The initial investment for the project will be \$3m but the final amount will be considerably larger and Telefonica will have a 49 per cent stake in the ven-

At the other pole of the ideo-logical world Telefonica also announced this year an agree-ment with the California-based Electronic Data Systems that involves a joint venture aimed, in part, at exporting Spanish-technology data transmission

For Telefonica the chief ob jective of the deal is to push the marketing of the packet-switch-ing system that it has developed and already successfully ex-ported to Canada and Argen-Telecommunications Data Services, will seek to design and Telecomr





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Long distance services in the US

Problems on prices and costs

long-distance telecommunica-tions market has evolved in the way the regulators envisaged when the old Bell telephone system was broken up four years ago. But it can hardly have changed in the way that the new competitors to American Telephone and Telegraph were hoping. They are currently struggling to make any headway

The problem they face is the straightforward issue of prices straightforward issue of prices and costs. AT&T, confirmed in the Bell divestment as principally a long-distance carrier, has much the lowest cost of operation. This is partly because the cost of long-distance traffic is directly related to volume, and AT&T, with its massive installed base can keep its lines. and AT&T, with its massive in-stalled base, can keep its lines busy more easily. The other op-erators cannot hope to attract this scale of business because they do not have equally large

AT&T is also better able to attract business interest because it already has a sophisticated equipment infrastructure which allows it to offer specialised services - very high speed data transfer and so on. Indeed, initially, the group's two main competitors, MCI and Sprint, es-tablished themselves by pursu-ing the private residential mar-

Three generations of telecommunication services - Telephony - Telex - Slow-speed data services (up to 9.5 kbps) - Teletax - Traditional or in Existing analogue and narrow-band process of communications ntroduction Videotex High-speed data services (n. 64 kbps) Second Digital upgrading of existing telecommunications networks autroduction of digital switching end digital local - Integrated services (digital voice, data, text, facsimile) - Electronic mail loops in basic networks **OThird** Broadband transmission and switching for at least 2 Mops channel (e.g. fibre optics, - Video-telephone system for trial phase - Very-high-speed data communications Bulk document transmi -Two-way CATV Street, Whitespieler, Arbert, Libe

sion and United Telecommuni-cations' long distance interests -

a deal aimed at reducing the cost of expansion for both par-

Many analysts believe that the the market is sufficiently large to accommodate the three,

and that establishing the two newcomers on a sound financial and commercial base is only a question of time: they both have to set up larger networks, which involve heavy up-front expendi-ture on fibra optic cabling.

Indeed, MCI, which initially new fibre optics as the high-cost option, preferring to use a mix of microwave links and tradi-tional cabling, seems now to be

ket, mainly because they did not have the ability to offer the wide range of services available to the corporate sector from AT&T.

Finally, the new pricing re-ime that has followed deregulation and the Bell system break-up has had the paradoxi-cal effect of putting more pres-

This is because AT&T is still coming round to the view that being forced by the authorities to reduce its prices under the the market will increasingly de-mand the quality inherent in fibre optics.
From the demand point of

regulatory formula; to maintain their pricing advantage, the smaller operators are therefore being compelled to cut prices still further without having a view. estimates suggest that plenty of opportunities remain for enterprising new services. Northern Business Information (NBI), the New York market recost structure that will absorb these reductions. search company, believes that US traffic growth over the next The financial impact of this new, post-deregulation environ-ment has become painfully apfour years will amount to an average of 13 per cent, with both MCI and Sprint achieving reve-nue gains of a little over 20 per parent in the tale of woe emerg-ing from the new companies. Last year, Sprint lost \$800m, while MCI ren up losses of

This implies that AT&T's mar-\$448m. Both companies have had heavy write-offs in recent years, and MCI cut its workforce in 1986 by 16 per cent to 12,700. ket share, currently standing at 75 per cent according to some estimates, will fall steadily: NBI believes it could be 65 per cent by the middle of the next decade, giving scope to both MCI (currently at 9 per cent), and Sprint (5.5 per cent). It still remains to be seen whether there is sufficient demand for three genuine long-distance carriers in the US: there has already been one large-scale rationalisation with the merger of GTE's Sprint divi-

Other long-distance carriers, which offer services on special route, sometimes through leased lines and sometimes through their own, should also increase their penetration from the current level of 10 per cent

Nevertheless. NBI expects that AT&T will maintain its enormously strong grip on the business market, and that its main loss of revenues will come in the less lucrative residential in the less lucrative residential market. AT&T is certainly gearing itself up to attract more business in this sector: in perticular, it is bidding for the high-speed data business through the installation of the increasingly sophisticated elec-tronics that are now improving

the efficiency of fibre optics. Terry Dedaworth

Seeking to break the shackles

The Bell regional telephone companies

THE SEVEN Bell regional tele-phone holding companies, spun is a lot of capability in the phone holding companies, spun off from American Telephone & Telegraph in 1984, suffered a setback last month in their campaign to snap some key chains in the regulatory shackles which still grip them.

since the epic-making break-up of the Bell system, squashed some of the expansionary ambi-tions held by the regional Bells. He continued to prohibit them from manufacturing telecommunications equipment or from entering the long-distance tele-phone market, which is still dominated by AT&T.

The Bells, each about the size of the larger European telephone operators, did not care for the judgment. The reaction of Mr Richard Yarbrough, a vice-president of Georgia-based

southern companies and the public was precluded from the possibility of new services be-ing brought on-line quickly." However, the judge, who continues to oversee the decree which broke up AT&T, did open the door to the Bells a little. He

was widely regarded as the the door to the Bells a little. He most important judicial decision in US telecommunications growing business information market by transmitting data. And he scrapped the rule that the Bells had to seek the court's approval before entering busi-nesses outside telecommunica-

Some Wall Street analysts welcomed the relaxation on transmitting data, arguing that anything which reduced the Bells' dependence on simple voice traffic was positive. However, telecommunications specialists are not so sure.

Mr Francis McInerney, an an-alyst with Northern Business

Information, a New York-based telecoms market-research con-sultancy, argues that the key feature of the judgment was the refusal of Judge Greene to allow the Bells to develop or own the information content of the value added services they can now transmit over their lines. "The money is not in pumping commodity bits, but in adding value to those bits," Mr McIner-

ney says. He adds that the fast-growing market for value added services will now be dominated by computer companies, particularly IBM. The regional holding com-panies run only one part of the network and it's becoming the least important part."

Of the three areas which Judge Greene was considering for deregulation, the Bells appeared most interested in that of value added services.

Winning permission to enter the long-distance market, which

seemed very likely to many observers. When it came to manufacturing, most Bells appeared to have fairly limited ambitions, such as getting involved in the development stage of equip-ment or being able to enter

niche markets.

We want to be able to do it, not because we would intend to wide switch manufacturer, but because we could sit down at an early stage with a manufacturer and work through specifics," as Mr Bill Burns, vice-chairman of Nynex, the New York-based

holding company, put it.

By contrast, the pulses of senior Bell executives quickened markedly at the thought of being able to enter the data markets. Information services offer the mest immediate concerns! ties to us. The network is there waiting," explained Mr Zane

still has not settled down, never Barnes, chairman of Southwes-

Moving into information serrices would have fitted well into the basic approach to diversi-fication articulated by MrSidney Boren, corporate planning vice-president at Bell-South: 'After a lot of study, we concluded that our future would be best if we stayed close to the telecommunications business.'

In boosting their non-regu-lated business, most of the Bells have been cautions about tackling areas too far removed from their core operations. For ex-ample, many have built up their yellow pages or their real estate sctivities, but these are busi-nesses they already knew about. Most of their large acquisi-tions, such as Southwestern Bell's \$1.6bn purchase of the Metromedia mobile communi-cations business, have also in-

to their knitting.

A similar point applies to their first tenative moves into their first tenative moves into the international arena. Bell-South has bought into mobile communications in the UK and Australia. Southwestern Bell has issueched a company to sell telecommunications equipment to British Rell Atlantic wants in Britain. Bell Atlantic wants to become more involved in consultancy computer mainte-nance in Europe.

Perhaps the boldest depar-tures made by the Bells has been to move closer to the com-puter business. Nynex has ac-quired a chain of high street computer centres from IBM as well as several software concerns, including BIS, a UE-based group specialising in financial software. Bell Atlantic

But even in these areas there are synergies with the Bells' traditional concerns. Maintaining computers isn't that different from maintaining complex switching equipment," as

Each of the regional Bell companies is about the size of the larger European operators. For many of them, cost-cutting now has a new importance.

MrThomas Bolger, Bell Atlan-tic's chairman, explains. While the Bells have been cautious in diversifying, much of their energy has been directed to sorting out their core business. Most have had to create a ness. Most have had to create a management culture out of the ashes of the AT&T empire. They have had to build up management teams charged with areas of responsibility, such as purchasing and relations with the financial community, which had previously been handled by AT&T.

For many, cost cutting has assumed new importance as they have begun to shape up for the new era post-divestiture. The announcement by Bell Atlantic last month that it was offering retirement incentives to roughly a quarter of its 23,000 managers is just the latest example of this.

The Bells' desire to encourage new switch suppliers to challenge the duopoly of AT&T and Northern Telecom of Canada is another instance of their tougher approach. In the next, year, it should become clear, whether this really will mean a:

stream of large orders for com panies such as Ericsson of Sweden, Siemens of West Gersweden, Siemens of West Ger-many and Stromberg-Carlson, the Florida-based switch sub-sidiary of Plessey of the UK - or whether the Bells are merely flirting with third suppliers in order to keep up the pressure on AT&T and Northern Tele-

Yet perhaps the Bells' biggest worry at the time of divestiture was bypass - the notion that big companies would increasingly send their traffic along private

networks, thereby missing out the regional Bells altogether. Most observers believe, how-ever, that bypass has not proved the threat that the Bells feared, although the position varies from region to region and is still highly fluid. The Bells were quick to press local regulators to allow them to restructure their tariffs so as to reduce the attractions of bypass.

Moreover, they concentrated their customer service and technological resources on big corporations, precisely those most likely to be tempted by bypass. "Analysts failed to understand that we had enormous resources to counter the threat of bypass in terms of the resources."

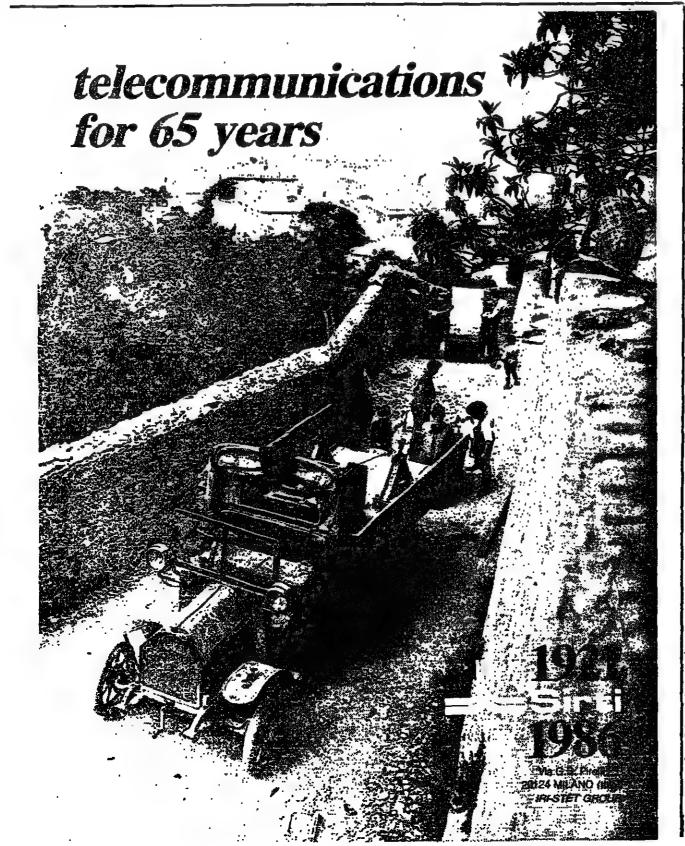
sources to counter the threat of bypass in terms of the resources we could apply," argues Mr Tony Parra, Nynex's head of investor relations.

This is just one of many examples of the intelligent response by the Bells to the new regime put in place since 1984. However, most recognise that they must continue to build up their non-regulated businesses, since they offer higher growth potential than their core telephone operations, which are subject to operations, which are subject to the vagaries of swings in their local economies. Hence their disappointment at Greene's latest ruling.

David Then



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WORLD TELECOMMUNICATIONS 19

The lure of the \$3bn US market

Foreign invaders face uphill task

JAPANESE and European tele-communications equipment manufacturers, lured by the potential opportunities in the deregulated US telecommunica-tions market, are mounting a challenge to established North American leaders, AT&T and Northern Telecom.

The "foreign" challenge is especially strong in the \$3bn US market for telephone company central office exchangeequipment While AT&T and Northern Telecom together hold a 90 per cent share of this key tele-

and will also decrease their uncomfortable dependence upon
supplier and competitor AT&T.

Already, several RBOCs including US West, Bell South
and Ameritech have awarded

their presence in the US major switch contracts to Ericsson, Plessey, Fujitsu and Sie-

There is room in the US tele-

South. Fifty-two central office put the supplier in a strong po-exchanges will be installed in sition to win future business.

How markets are growing 15,402 16,034 16,959 18,007 20,509 3,930 4,295 4,716 5,104 5,919 West Europe 11,548 12,411 13,251 14,049 16,295 4,912 5,125 5,454 5,715 8,654 35,792 37,865 40,380 42,875 49,377

telecoms market

There is room in the US telephone exchange market for at least one more major vendor, industry experts say. The competition between the "alternative" European and Japanese suppliers to establish them selves in the third place slot behind the entrenched US leaders is intense.

Plessey's Stromberg-Carison is currently leading the pack with estimated US sales last with estimated US sales last loop through existing talephone network over \$131m. Becently the company won an order said to be worth over \$100m from Bell fallows the supplier in a strong po-

exchanges will be installed in rural areas of the southern thates during the first year of the contract.

Also bidding for an increased share of the US market is Ericsson Network Switching America and GTE Communica-Systems, a subsidiary of LM Ericsson of Sweden. Ericsson's ment to form Fujitsu GTE Busigoal, according to company expenses Systems, 30 per cent owned

per cent share of this key telecommunications equipment
sector in the US, newcomers including Stromberg-Carlson,
owned by Britain's Plessey, Ericsson of Sweden, Siemens of US sales have been small, but
West Germany and NEC and
Fujitsu of Japan are making
their presence felt.

According to industry analysts US telephone companies,
chiefly the Regional Bell Operstring Companies (RBOCs) are
encouraging the emergence of
alternative switch suppliers.
Greater competition, they believe, will lead to lower prices
and will also decrease their unmarily on the private branch etchange market.

But the foreign invaders face an uphill hattle. According to Dataquest, the US market research firm, the US central office switch market is shrinking. From an estimated \$3 that in sales last year, the total market is expected to drop to \$2.95m this year and perhaps \$2.55m in 1888.

Another problem for would-be leading US telecommunications equipment suppliers is the need to establish broad support organisations in the US. The cost of building sales, installation, service, technical assistance and customer training operations is a hurdle that could unset all but the most

training operations is a nursue that could upset all but the most determined competitors. Political and trade issues also lurk as a potential barrier to foreign participation in the US telecommunications market. In recent months there have been both threats from both Congress and the US Administration of unspecified retaliatory actions against telecommunications against telecommunications equipment suppliers from countries that allegedly discriminate against US manufacturers. Ultimately, the battle for third and fourth place in the US telecom equipment market seems sure to be won either through acquisitions or through joint ventures with US firms. Such arrangements might circumvent political issues while also providing foreign companies with the infrastructure needed to support a presence in the US market.

European suppliers seek inroads to US sector

Acquisitions pave the way

EUROPEAN TELECOMMUNI-CATIONS companies are not exactly welcomed with open arms in the now deregulated US market, but for those who play their cards right the rewards can be handsome.

can be handsome.

Acquisition of an indigenous
US supplier is the most common
method of entry into the US
telecommunications market.
Organic growth is extremely dif-

Granic growth is extremely difficult to achieve.

"Growing a branch in the US is a very long-term business.

Jeumont-Schneider, a French company supplying private exchange equipment, tried to do it without much success," says Mr.

Michael Cooper managing and

without much success," says Mr Michael Cooper, managing con-sultant for market studies at Logica Consultancy.

"People realise now that the US market prefers to buy Amer-ican, and that there is no time to build up something from scretch."

scratch."
Some Europeans buy into businesses which are in a tight financial situations while others buy into profitable high fliers to keep the momentum going.
In the former case, UK telecumpunications suppliers Racal and Plessey bought into Milgo and Stromberg Carlson respectively. Bacal Milgo is now a major supplier of data com-

a major supplier of data com-munications equipment in the US. "A faw years ago, Plessey bought Stromberg Carlson's public exchange activity and braved some indigestion problems in order to get at the public exchange business in the US," adds Mr Cooper.

"European companies generally find US acquisitions a little difficult to digest, but it does work. For example, in a parallel field to telecommunications, Philips bought Signetics, a major semi-conductor manufacturer, and that seems to have been absorbed successfully. Philips has a substantial operation in the US, but it tends to keep these companies going under their own name."

Through a combination of holdings with AT&T, Cable & Wireless (C&W) has established a number of digital networks within the US as part of its global strategy to service the world's main financial centres. The company may typically hold less than a 50 per cent stake, but in most cases provides technical management, offering additional services such as digital tional services such as digital leased lines from California to the East Coast.



the US. European explained suppliers do not find it easy to make inroads into the US market which 'profess to buy American,' comments a market analyst.

Transatlantic communica-tions on private leased circuita are currently provided by Intel-sat satellite, with C&W's Private Trans-Atlantic Telephone (PTAT) cable coming in two or three years. This will provide one-stop shopping for communi-cations from California to the UK

tions giant Alcatel has not had much success in the public ex-change business in the US but change business in the US but the Alcatel EIU, Inc EII range amisation, is currently going alms to make its mark there acquired from Thomson-CSF a through a company manufacturing transmission equipment transmission equipment transmission equipment transmission equipment transmission equipment transmission equipment transmission. System 12. Nothing will be form Tellit. Siemens recently bought the mext generation manufacturing arm of General terprise. The operating arm of GTE. The operating arm of GTE. The operating arm of GTE provides a public network the talecoms business is that

of the ITT telecommunications of the ITT telecommunications facilities in the US.
The practicality of pulling two large companies like that together is going to take an enormous amount of time, but will establish Alcatel as a worldwide telecoms company.

I think some overlapping development projects are being

T think some overlapping development projects are being cut in favour of Alcatel. There are now three product lines for public exchange equipment the Alcatel ELO, the MT range acquired from Thomson-CSF a couple of years ago, and now the ITT System 12. Nothing will happen to the existing product lines, but the next generation will be developed as a joint enterprise.

people do expect equipment to be around for a long time, even in the private sector to some exequipment come and go, they are not looked upon with fa-your. You have to establish your

vour. You have to establish your position in the market before people take you seriously."
GEC in the UK and Italiel in Italy have yet to make any overtures to the US market. Italiel, a state-owned manufacturing organisation, is currently going through a merger with another Italian company called Telettra to form Telit.
Siemens recently bought the

com's to various parts of the US, but primarily in Southern California. Ericsson has had some success in the public exchange field with its AXE exchange, particularly in providing exchanges for cellular radio, the same as that used by Racal for the Vedanbage cellular nature. its Vodaphone cellular net-

US deregulation provided us with a substantial market op-portunity, says Mr Bo Landin, senior vice-president for corpo-rate planning at Ericsson. We therefore took a strategic deci-sion to make a major invest-ment in order to secure market share in the US public telecommunications market. We have a development staff of about 300 people working in the US, backed up by our own people and organisation here in Sweden."

Apart from the mandatory requirement to offer competitive telephone services to subscribers through its own exchanges, Ericsson has long been in the interconnect business, something which it achieved independently of US deregulation.

Interconnect was deregu-lated 15 to 20 years and we have been in that market ever since," says Mr Landin. "We have also taken half of the US market for cellular radio - this has devel-oped very fast over the last two

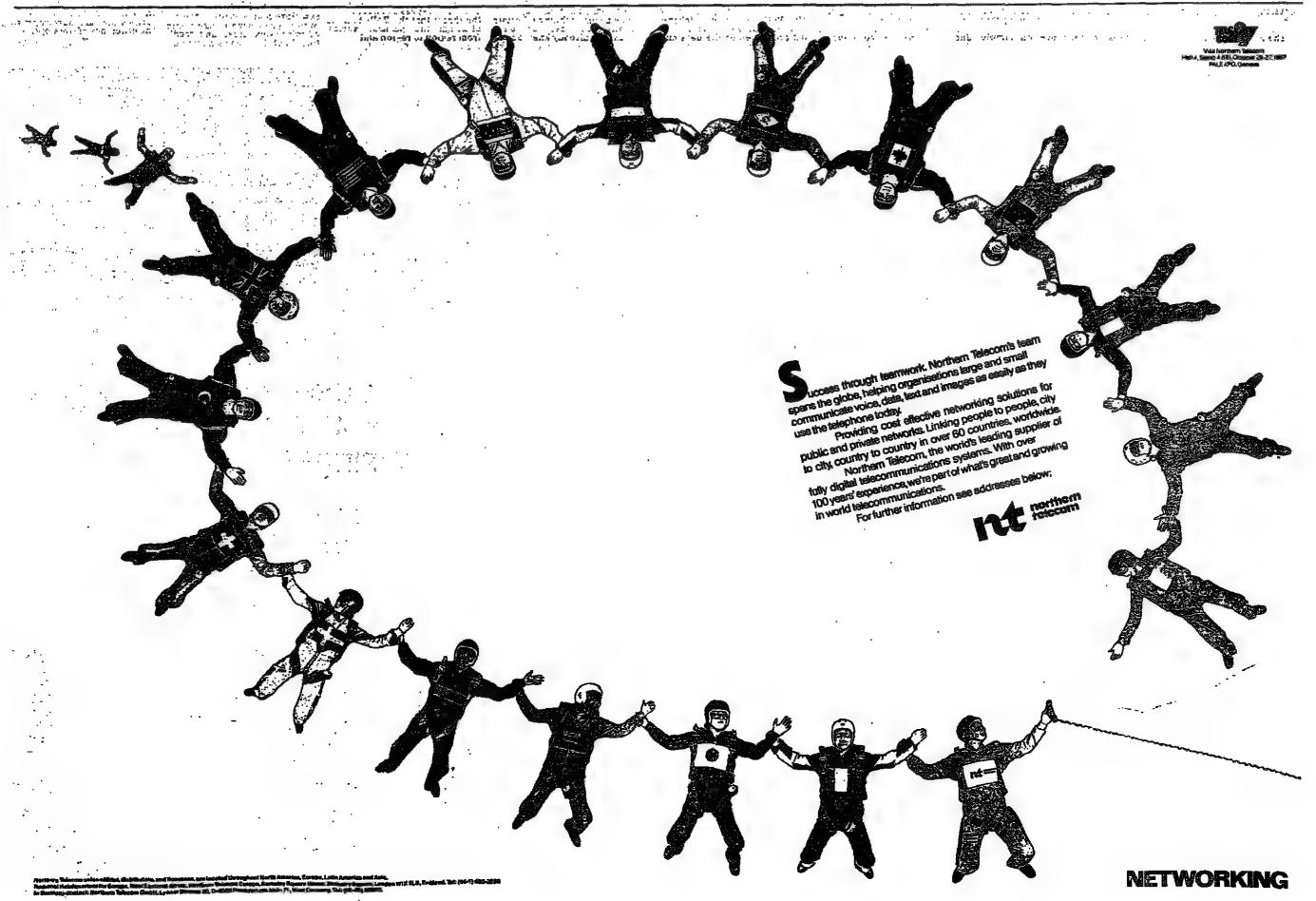
Deregulation in the cellular area made it mandatory to have concessions for two operators in all areas, one to be held by the traditional PTT, in this case AT&T, and the other one given to an independent.

Unfortunately, the system used in the US does not allow cellular radio subscribers to me from one area to another - li-cences are granted only on a lo-cal or regional basis.

We have now installed cellu-lar radio at 14 different sites in

the US. This is not a technical limitation of the system as such There is no nationwide system available in the US, and I think

available in the US, and I faink
we will have to wait for quite
some time before we see such as
system in the US," he says.
'At the moment the cellular
radio side is more important in
terms of revenues because that
is a mature business. Our public
exchange side is still at the inverticent stage but we expect vestment stage, but we expect revenues to come in by around the end of the decade or the early 1990s."



Profile: Dennis Patrick of the US Federal Communications Commission

Seeking to reward efficiency

place. Stylistically, however, the two men are a study in con-

Mr Fowler 46, chairman until last April, had severe critics in Congress. An abrasive, controversial personality, he once described television which his Mr Clark brought Mr Patrick to the White House where he worked in the personnel office. From there, the young attorney agency regulates, as simply 'a toaster with pictures', having insisted that the best regulation is no regulation. One of his last acts on the jobs was to oversee adoption of sweeping new limits on the broadcast of obscene and offensive language. He left the Commission rather than face what was certain to be a bitter re-confirmation battle in the Demo- cratic-controlled

At 36, Mr Patrick is smooth, At 30, Mr Patrick is smooth, smart, handsome and witty. While properly respectful to Congress, be and the other three FC commissioners infuriated many legislators last month by voting to abolish the longtime 'fairness doctrine,' which requires televisor and which requires television and radio stations to present contrasting viewpoints on issues of public interest. The move may have lost him what good will his geniality has won from Democratic leaders.

DENNIS PATRICK. chairman manship of the FCC at a com-of the Federal Communications paritively young age through Commission, and Mr Mark the kind of California connec-tion which has paved the way philosophical twins - deregula-for many Washington careers. To the inevitable cry that tion zealots, who believe their during the Reagan Administra-agency should intrude as mini-mally as possible in the market-University of California law University of California law school and served as a law clerk to Mr William Clark, later the President's National Security Adviser and Interior Secretary. Mr Clark brought Mr Patrick

spotted an opening on the FCC, applied for it himself and in 1963 became one of the five commissioners.
Last may, shortly after assum-

ing the chairmanship, Mr Patrick appeared before a congressional committee and seemed likely to move cautiously on fur-ther deregulation. He ex-pressed his desire for 'a produc-tive relationship' with Congress and stressed the need for regulation - on occasion.

"Where regulations are unwhere regulations are un-necessary or inimical to the public interest, I think we should get rid of them, be said. "Where regulations are neededand no market can function without at least some basic rules of the game - it is our job to supply them."

Then he launched into his thoughts on the future of tele-communications. One of the most controversial of these was Mr Patrick reached the chair- a proposal to increase the cost

customers on fixed incomes would suffer at the expense of business, he quoted a study indicating that long distance phone use has grown among the elderly and low income con-sumer as a result of rate reduc-

He also proposed to change the way AT&T's long distance charges have been regulated, substituting a limit on profits with a price cap indexed to inflation. Limiting profits, he said, discourages efficiency.

By rewarding efficiency, we

would give the regulated firm strong economic incentives to lower costs to levels of maxi-mum efficiency and to intro-duce new and better service, he proclaimed "At the same time, consumers would be protected by the caps and share in some measure of the productivity gains this approach would encourage."

Diplomatically, he asserted that the FCC is not ready to mandate the cap approach. "We would certainly appreciate input from Congress in that dialogue," he said.

While awaiting Congress's views, the Administration's days in office are waning, and so may Mr Patrick's patience.

Nancy Dunne



Decris Patricic A believer in minimum interference

Group profile: AT&T

Not an easy ride

IT IS now almost three years since the huge Bell telephone system was broken up in the US and American Telephone and Telegraph, once the most complete communications company in lilkkthe world, floated off into an uncertain future. The history of the group since then is an object lesson of just how difficult it is to change the direction of a large and complex or-

ganisation.

When the break-up occurred AT&T was clearly set on moving quickly into two largely new areas of business. On the one hand, it was intending to use the muscle of its Western Electric manufacturing arm, the tradi-tional supplier of most of the US's telephone system, to move into international markets. On the other, it was aiming to

become a prime player in the office automation sector, using its mastery of the telephone system, its manufacturing know-how and its large research resources to take a grip on the growing market for manion the growing market for manipulating corporate information. In both of these new areas, AT&T has found progress difficult. Indeed, the immediate consequence of the reorganisation of the old company is to have demonstrated the underlying strength of the basic network business rather than the new areas of interest.

new areas of interest.

Both the new AT&T and the seven regional telephone service companies - the local telephone system operators which were broken off as independent entitles from the old group have managed to generate steady profits from these activities. They have been helped by the strong economy and rising traffic, as well as operating economies pushed through in the more liberated environment following divestment.

following divestment.
On the equipment side, by contrast, AT&T has been faced with the problem of turning itself into an international group in a period of accelerating com-petition in the US market and continuing protectionism over-seas. In the US, therefore, it has found its traditional markets within the old Bell operation system under heavy attack from a multitude of overseas compa-nies: and in export markets it nies; and in export markets it has had to try and find a niche for itself against local compa-nies which are either overtly or covertly supported by their gov-

ernments.

AT&T has responded to the challenge at home with a cost-cutting programme in its US factories. Jobs have gone at Western Electric, the manufacturing arm of the group, investment has poured into new production methods, and margins have steadily improved. At the same time, the company has given every indication that it is prepared to dig in for the long haul in its overseas enterprises, despite its early setbacks.

despite its early setbacks. The most important of these reverses came earlier this year, when AT&T lost a long and bitterly-fought campaign to take over the French equipment group CGCT, which finally went to Ericsson of Sweden. There was some speculation at that time that AT&T might withdraw from APT, the company which it The most important of these



nter, Orlando, Florida. The new AT&T and the seven regional il telephone services which were lilved away from Urely former perent have managed to generate steady profits.

Arelatagia	ince
(All figures are year-end	1 1986)
Assets	\$38.9 bn
Revenues	\$34.1 bn
Net income	_\$139 bn*
Employees	317,000
Capital expanditures	\$3.6 bn
Research end development expenditures	\$2.5 bn
Total 1986 calls	20.1 bn
Average calls per business (itry34 m
Total international calls in/out	843.6 m
Percent digital switching at end of 1987	98 percent

shipped in 1985 .

owns jointly with Philips of the Netherlands. But the collabora-tive venture has since been puttive venture has since been put-ting significant amounts of in-vestment into new plant in Europe, including a transmis-sions facility in the UK. Last year, it cut its losses in this business to Fl 70m (\$33m) from

On the office automation side, AT&T has struggled even har-der, losing well over \$15n on its computer division in 1996. Anslysts at one time saw this sector as offering glittering growth to Ericsson of Sweden. There prospects as computer and telewas some speculation at that communications technology time that AT&T might withdraw converged. But in practice it from APT, the company which it has proved difficult for the com-

puter manufacturers to graft on telecommunications and for the telephone companies to master

the computer market.

AT&T's response to these problems has been a mixture of problems has been a mixture of cost-cutting, managerial changes - it has brought in an Italian, Mr Vittorio Cassoni, to head the computer division - and new products. It has gone into an alliance with Olivetti, the Italian group, to ensure its supply of personal computers, and is clinging stubbornly to its strategy of becoming a leader in the information handling and transmission market. Pre-tax losses in the division were cut to around \$230m in the first ser-

to around \$230m in the first seven months of the year.

Longer-term, analysts remain acutely divided over At&T's prospects. Some worry about its vulnerability to new long distance telephone operators in the US, and there is concern that its efforts to expand over-seas will drain off too much

On the other hand, it is difficult to find anyone who does not include AT&T on his or her persomel list of the survivors from the manufacturing shake-out which is widely predicted in the big switch market. And with an ultra-modern transmissions sys-tem and the vast potential of the US market behind it, there is no and allow its competitors to hammer it into the ground. In-deed, there can hardly be a tele-

Terry Dodsworth



its on the New York Metal Exclu fille, competition arrong eq

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Canada

Perpetual motion, piecemeal liberalisation

THE PACE of change of late in the C\$15bn Canadian telecom-munications industry has been breathtakingly rapid.

New product developments. some consolidation of the players in the more mature equip-ment markets and ongoing ef-forts to disentangle the forts to disentengie the country's bewildering jumble of local, provincial and national regulatory regimes have all contributed to a sense of perpetual

motion.

Overall however, while many of the forces which brought greater competition to the US market are increasingly in evi-dence in Canada, there are indications that this vast and sparsely-populated country will not be rushed. This was empha-sised by federal rejection of an application by CNCP Telecom-munications, a joint venture be-tween the two big national transportation companies - Canadian National and Canadian Pacific - to launch a public long-distance service in three provinces in competition with the resident utilities in 1985. If the forces of free competition are to invade the Canadian tele-communications market to the extent that they have done in the US, the chances are they will do so piecemeal and over a

period.
On the regulatory front, Ottawa has made some progress to-wards rationalising the hid-eously complicated current position both by unveiling guidelines for a new telecom-munications policy and by grad-nally increasing pressure or ually increasing pressure on the provinces to relinquish some of their own zealously-

guarded powers. In July, Ms Flora MacDonald. Federal Communications Minrederal Communications Minister, outlined plans to divide
telecommunications carriers
into two categories. The first,
called Type I, would comprise
companies which own and opernate inter-provincial and international networks. Type II companies, meanwhile, would have
the right to lease facilities from
the pational carriers in order to the national carriers in order to sell enhanced services to the

public. -Plans are for unrestricted Plans are for unrestricted competition to be allowed among Type II carriers. Naw Type I entrants would, however, be limited to prevent unnecessary duplication of costly facilities. In addition, Type I carriers must have less than 20 percent foreign ownership, with the exception of those which are already foreign controlled.

Observers feel that the prov-

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inces may be encouraged to fall in line with Ottawa's approach by the likely outcome of a long-running case, now before the regulates them. Supreme Court, concerning another CNCP proposal, this time to interconnect with the facilities of Alberta Government Telephones.

AGT maintains that it alone has the right to pass judgment. But the court is expected to rule that the federal government, through the Canadian Radiotelevision & Telecommunica-tions Commission (CRTC), has the power to decide who can two most populous provinces. It connect with provincial tele- also owns substantial stakes in phone companies. three utilities in eastern Cana-At present, it is no easy task ds. Other companies controlled

com the world's biggest suppli-er of digital telecommunications equipment, Bell-Northern Research, a leading research group, and the recently-formed BCE Mobile Communications. On the West Coast, mean-

On the West Coast, mean-phone (BC Tel) - a subsidiary of the US group GTE - enjoys a similar monopoly. Utilities in other provinces fall under the jurisdiction of provincial authorities. The Al-berts, Saskatchewan and Mani-toba governments own their toba governments own their own telephone companies.

There are also several local utilities. Ontario-Northland

Telecommunications, for exam-

Telecommunications, for example, provides services in parts of Ontario not served by Bell.

Public long-distance services are currently the preserve of Telecom Canada, whose members include the nine major provincial carriers and Telesat Canada, the national satellite rporation jointly owned the federal government and the

elecommunications carriers.
The CRTC also has indirect authority here - as it does over expansion-minded CNCP, which has provided privately-leased long distance voice and data lines to business since 1979. It is hardly surprising that
such a regulatory labyrinth
sometimes produces friction.
Canada is being prodded to
proceed more rapidly with the
introduction of more free compatition by mounting profes-

petition by mounting protec-tionist sentiment in the US. Particularly unpopular is Canada's 17.8 per cent tariff on telecommunications imports, which the US claims is not only

Canadian industry revenues 10,528.3 8,342.2 4.8% Monopoly Services 5,731.8 18.5% 2,456.3 1,674.4 773.0 1.2% 727.1 Contral Office 247.5 198.2 -4.3% Fiber Optics 1772 339.8 13.9% Other Transp 1,918.5 2.2% 1.718.6 429.0 -0.1% 432.0 390.0 2.1% KTS 50.0 10.0 Other CPE 11,605.8 17,934.5 8.1% Services 2.870.4 7290 759.0 0.8% 15,205.2 21,923.0 7.6% TOTAL

fair advantage in their home market US competitors also want Northern to sever its links with Bell Canada - its sister company and biggest customer. The arrangement gives North-ern, in effect, first refusal on Bell Canada equipment orders,

they argue.
This attitude has been partly spawned by the BCE subsidspawned by the BCE subsidiary's conspicuous success in the UE market. Northern's 1885 sales south of the border totalled US\$2.9hn or approximately two-thirds of overall revenues. Such a performance has until recently contrasted markedly with the sales by US companies, such as AT&T, in Canada. However, AT&T Canada has reportedly enjoyed a distinct change of fortune lately under its new president. Mr Jim Leto. its new president, Mr Jim Leto, and is currently trying to forge links with local manufacturers to make some AT&T equipment in Canada.

By now, the Central Office

(CO), Private Branch Exchange (PBX) and Key Telephones Sys-tem (KTS) markets have become relatively mature in Canada, having achieved high penetra-tion among potential users. This has prompted some consolida-tion among market entrants, particularly in the PBX and RTS sectors.

The C\$255m PBX market is dominated by Northern Tele-com with an approximately 48

higher than the 8 per cent levied south of the border but provides Canadian companies like Northern Telecom with an uncent, followed by IBM-affiliated Rolm Canada with 13 per cent. Nortel can also boast a 32 per cent share of the C\$166m KTS market. However, TIE/Telecom-munications Canada marginally outstrips it with an estimated 35

> For growth, some companies For growth, some companies are turning to various new or lower penetration products. BCE recently restructured its mobile communications companies into a new subsidiary which it says it plans to take public. Meanwhile, Nortel recently announced its entry into the facsimile sector by starting the 1990s.
>
> Northern sees unfolding into the 1990s.
>
> Northern, through first-rate FAXion range.

fied communications network. NEC of Japan, Ericsson of By the end of the year, two Bell Sweden and Stromberg-Carlson Canada customers are expected of Florida are fighting for a to be serving as guinea pigs for alice of the regional Bell's busi-

Profile: Northern Telecom

Not resting on **US laurels**

nadian telecommunications these pressures, the company's equipment giant, has unveiled a business in the US is bound to stream of new products in the run-up to this year's world tele-communications show in Gene-services and so on - is increas-

First off the block is the new digital public switch, the DMS SuperNode, unveited in July, which is likely to become Northern's flagship product. More powerful than its existing twitches its allegations where the superness of the superness o switches, it also gives phone companies the ability to write their own computer pro-grammes for their switches, allowing them to offer phone services tailored to the specific needs of their customers.

Next in September came an addition to Northern's private switching family designed to parallel the SuperNode in the world of public switching. The world of public switching. Inc-new machines are more power-ful, allowing more calls and more sophisticated services to be handled by them. Hard on the heels of the pri-

vate switch, Northern nounced a new digital data switching system, the DPN-100, which Northern said provides a 10-fold capacity increase for da-ta communications network op-

to market the three-model Per-FAXion range.
Analysts like Mr Albert Daoust of Evans Research expect the C\$120m Canadian fax market to enjoy close to 50 per cent growth this year, with the figure remaining as high as 40 per cent for the next two years. In the longer term, all eyes are focused on the so-called integrated services digital network (ISDN), as by far the most important new telecommunications will eyed into the telephone network using a single jack to provide an international and unified communications betwork.

The communications betwork.

an experimental service linking test.
Toronto, Ottawa and Montreal.
David Owen Northern's chairman, dismisses

NORTHERN TELECOM the Casuggestions that, faced with nadian telecommunications these pressures, the company's ingly what matters, not a crude line count. And on this measure, Northern, with its big installed base, is still in a strong

Northern's latest product announcements fit into this strategy. Mr John Roth, Northern's ex-ecutive vice-president for product planning, explains that customers put an increasing value on flexibility in their networks: We are finding our-selves being inundated with customers wanting to achieve competitive advantage through their telephone system."

Northern has put particular stress on developments which some observers believe will revolutionise. North American communications in the next decade, such as Integrated Services Digital Network (ISDN) video to be sent over the same public exchange line. The company believes that its

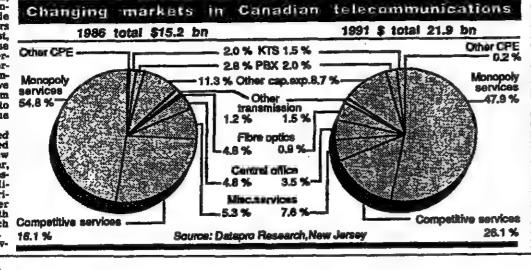
familiarity with these leading edge technologies in the US will help it penetrate markets out-side North America - another key goal of the corporation as its backyard becomes more con-

It chose to launch its new data switch in Europe, where it has succeeded in selling packet switches in countries such as West Germany, Austrie, Portu-gal, Switzerland and Ireland. However, Northern has strug-

gled to become a big player in many markets outside North America and has lost some im-portant battles: it failed to become the second switch suppli-er to British Telecom or to buy CGCT, the second French switch manufacturer.

The company has talked generally about wanting to make acquisitions, strategic alliances and direct investment to help its thrust into Europe, but has move. Northern has said it wants its overseas sales to ac-count for 15 per cent of its worldwide revenues; last year, they made up less than 5 per cent of its \$4.384bn sales. Bridging that gap will take some do-

David Thorns



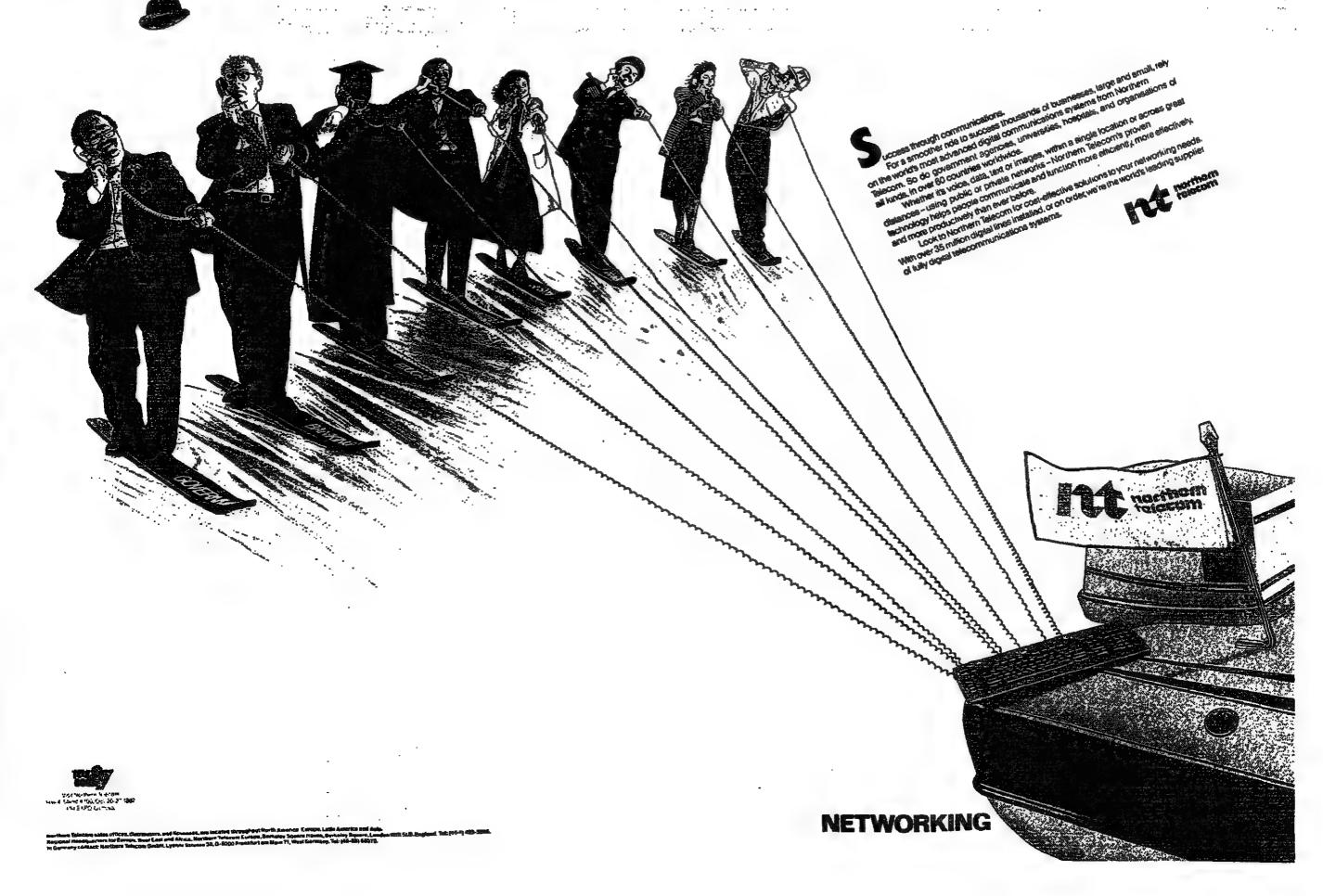
utilities operate where and who regulates them.
As things stand, the CRTC has

primary regulatory jurisdiction in Ontario, Quebec and British Columbia through its authority over the telephone companies

in these provinces.

Bell Canada - a subsidiary of Bell Canada Enterprises, the C\$14bn Montreal-based industry Leviathan - rules the roost

on local services in most of On-tario and Quebec, the country's



Newcomers in Japanese domestic telecommunications

Big shake-up in services

day, the three companies which have been licensed to provide long-distance competition to Ja-pan's domestic telecoms glant, Nippon Telegraph and Tele-phone, all started selling dialup services.

The newcomers have been of-fering leased lines to Japan's businesses since last autumn They are all making heavy losses so far, nearly Yilbn be-tween the three of them last year. But they all have parents with deep pockets, and business plans which do not envisage turning a profit before about

ing job at NTT to found one of them. His firm, Daini Denden (a consortium led by Sony and the ceramics firm Kyocera), has constructed a microwave link which connects Tokyo to Osaka by way of Nagoya. It runs through Japan's industrial heartland: half of the Y1.5 tril-lion which Japan spent on long-distance telecoms last year flowed along that route.

Mr Senmoto's firm faces plen-ty of competition: from the othr new rival carriers (Japan Teer new rival carriers dapan ie-lecom and Teleway Japan) which have both installed fi-bre-optic cables along roughly the same route, from two new satellites which should be launched early next year, and not least, from NTT ityear, and not least, from NTI li-self. NTT runs a loss-making lo-cal telephone operation, and desperately needs to hold on to profitable long-distance traffic. It is hard to think of a Japanese industry more regularly in the news than telecoms. Japan is in the middle of a huge tele-coms modernisation. Like British Telecom in Britain, NTT has been cushioned from competition for too long and has be-come bureaucratic, inefficient and expensive. Although subsi-dised local calls provide one of bargains, long-distance calls are expensive. A call from Tokyo to Osaka at peak rate costs Y130 a minute on NTT's network. Part of the

digital switching than any other major country.
It is too early to say how well
the new domestic carriers will
do. They are all spending lavishly on promoting their new digl-up services, running cam-paigns on television, in magazines and at railway sta-

reason is that Japan has converted far less of its network to



Long-distance calls are ex · = Japan. Above: busy foreign tional calls at the Vede Taushi nge brokers malding lø

new carriers, though their loy-alties are divided. Mitsubishi, for example, having small stakes in all of them.

New long distance services are only part of the domestic

second revolution has been the steady growth in the market for Type II services, the Japanese term for VANs. This growth is getting a further boost from the availability of cheap new capacity. Type II services are proliferating rapidly; more than 400 of them have been registered with the Ministry since the Telecommunications. Business

Telecommunications Business Law came into effect in April

The Ministry expects that the Type II market will be worth at least Y700hn this year, and it is growing at around 20 per cent a year. It breaks into two parts: Type II Special and Type II General. The first of these are clarge scale? VANa, which are defined as services using more than 500 leased circuits transmitting 1,200 bits a second or more. Examples would be pack-

more. Examples would be pack-et-switching networks, electron-ie mail services and businesses which resell large chunks of ca-pacity bought wholesale from

tions. Between them, they man-aged to sign up nearly 800,000 advance subscribers (individuals as well as businesses) before their services went live.

house in Takvo.

The other crucial factor is the reaction of NTT. It has already Using the new carriers requires only a once-and-for-all fee of Y4.000, which is paid to reaction of NTT. It has already squeezed the NCCs in the leased-line business by cutting its prices by 10 per cent on August 1. That has reduced the NCCs' discount to less than 10 per cent. The dial-up market is worth about 20 times as much, and NTT may not be able to afford to cut its prices. NTT for the use of its local network. The New Common Carriers are at the moment offering discounts of 20 to 25 per cent below the prices charged by NTT.
The Ministry is keen to avoid a
price war, which might bankrupt ail of them before they
have got off the ground. Japanese telecoms story. The second revolution has been the

rupt all of them before they have got off the ground.

It therefore insists on approving the tariffs charged by all Type I carriers, which are telecoms companies which own their own network rather than sell services like electronic mail, for example, over networks belong to other firms.

This explains why the three new carriers are charging almost identical rates, even though they use different technologies and have different costs. But all are lobbying for greater freedom to price their services the way they want to.

There are two keys to the new companies' success. One is their ability to attract big corporate subscribers: by some estimates, as much as 30 per cent of all business long-distance traffic travels along the Tokyo-Osaka corridor. They have one beadstart. All of them are owned by large companies, with plenty of telephone and data traffic which needs handling, Japan's big trading houses (the Soga Shosha) have shares in all of the

the Type I carriers.
There are 11 of these services

operating in Japan at the mooperating in Japan at the mo-ment. Among them are data-net-works run by NEC, by Ritachi, by Fujitsu, and by the promi-nent independent software house Intec (which is in a joint venture with America's GTE Te-lenet and Canada's IP Sharp. There are no restrictions on for-There are no restrictions on for eign ownership of Type II firms Among the foreign participants are IBM (which is involved in a are 1888 which is involved in a controversial joint venture with NTT) and AT&T, which has teamed up with Hitachi, Fujitsu and the Industrial Bank of Japan to form a firm called Japan Enhanced Network Systems.
The Type II General market includes financial information

services run by high street banks like Sanwa Bank, Mitsubhanks like Sanwa Bank, Mitsubishi Bank and Fuji Bank: other
VANs include services run by
the trading companies aimed at
the retailing of the products
they distribute. The pharmaceuticals and food businesses
have both attracted a number of entrants. Few of the services are profitable in their own right: but they belp sell other

Dr Hisashi Shinto of Nippon Telegraph and Telephone

Delighting the share-holders

Outspoken chairman of Nippon early this year. He has also di-Telegraph and Telephone, ar-rected NTT to open up its sup-rived at his present position ply channels to foreign manu-from a most unlikely back-facturers.

to become president in 1972 of what had become Ishikawaji-ma-Harima Iodustries (IHI), one of the leading heavy industrial groups in Japan. He remained president until his retirement

He came to NTT in 1981 at the age of 71 with the nickname "Mr Rationalisation", acquired while restructuring IHI away from its dependence on the de-clining shipbuilding industry.

clining shipbuilding industry.

At NTT as well, his main concern has been coping with radical change. He was the first president of the then monopoly state-owned company to come from the private sector. He presided over the privatisation of the company in April, 1985, its adjustment to the opening up of the telecoms industry to competition last year and its speciacu-

A mechanical engineer, he spent most of his career in the shipbuilding industry. He joined Harima Shipbuilding that has been achieved is debatant become president in 1998. able, but the company has cer-tainly not suffered the wide-spread criticism that has hit British Telecom since its priva-tisation. NTT shareholders should be happy, because the shares have risen substantially

> The company has also created one of the most successful con-sumer fad products of the past two years, the telephone card. These are now ubiquitous in the country, offered by many com-panies - with suitable advertis-ing on the face - as promotional gifts and traded actively by col-lectors. In the process, they have created a large new source of cash flow for NTT and cut its costs of operating public tele-phones.

phones.
Dr Shinto (he has a PhD in mechanica) engineering from

DR HISASHI SHINTO, the lar flotation on the stock market Japan's Kyushu University) is utspoken chairman of Nippon early this year. He has also dione of Japan's most cosmopoli-elegraph and Telephone, arrected NTT to open up its suptan executives. While at 1HI, he spent an average of 150 days a year outside Japan, selling his company's products. Now, he says he is abroad only one month of the year.

For all his activity, Dr Shinto

always appears relaxed and prepared to comment freely on a wide range of subjects. A year ago, when NTT shares were be-ing offered on the market for Y12m each, a breathtaking 133 times the company's earnings, he acknowledged that the price was totally indefensible.

He blamed it all on the 'mon-ey game' that was gripping the Tokyo stock market at the time. Tokyo stock market at the time.

One day, people engaged in the
money game are going to incur
the wrath of God," he told a
group of foreign reporters.

In a recent speech looking
back on his experience in industry, Dr Shinto attributed Japan's present success to its abliity to adjust to the "Nixon shock"
in 1971, when exchange rates

in 1971, when exchange rates were freed, and top the first oil shock in 1973, Those two shocks forced Japa-

nese export-oriented industry to look in every nook and cran-

ny for ways to cut costs. Afong the way, he said, they discov-ered that many ways of saving energy or cutting pollution also contributed to improving prod-

uct quality.
Thus, by the late 1970s, to the surprise of many Western analysts, Japanese industries were competitive again. Teople over-seas were surprised when they started to see me again, he

This blitz on costs also left Japanese companies in better condition than their international rivals when the second oil shock hit in 1979. And that together with their enthusiastic adoption of electronic manufacturing systems, paved the way for the country's export boom of

the 1980s.
Dr Shinto believes that the main mistake Japanese compa-nies have made has been to be too preoccupied with market share. This has led to over-pro-duction in a number of sectors, aggravating trade frictions.
Teople thought that what was big was good. We have to renovate our thinking Sales-to-profit ratios are much more impor-



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Japan's international telecommunications

Demand rising steadily

THE LONG saga of Japan's international telecoms licences is in the opposite direction. Japan still ose international links the chance of a surprise ending. International Digital Communications, a consortium that includes Britain's Cable and Wireless and the American regional holding company, Pacific Telesis, has added a sharp political twist to the negotiations, but looks almost certain to obtain the licence it needs to offer international services to and from Japan.

Japan as it does to make the call in the opposite direction. Japan still oses than most countries, he-cause of the problems of language and time zone. In Japan international calling accounts for only about 3.5 per cent of total telecoms spending. The British figure is about 25 per cent of total telecoms spending. The British figure is about 25 per cent of total telecoms spending. The British figure is about 25 per cent of total telecoms spending accounts for only about 3.5 per cent of total telecoms spending. The British figure is about 25 per cent of total telecoms spending accounts for only about 3.5 per cent of total telecoms spending accounts. But international traffic has form Japan.

from Japan.
So does its rival, the all-Japanese consortium, International Telecom Japan. Both have formally submitted their applications to the Ministry of Posts

and Telecommunications, which will probably announce its decision by the end of the year. The fact that both sides have been allowed to submit applications is widely interpreted to mean that both will be successful.

to mean that both will be successful.

The high degree of foreign participation in the original IDC proposal — up to the limit of 33 per cent allowed by the Telecommunications Business Law — originally worried the Ministry. It cited fears about threats to national security, is noring the fact that sensitive information could travel on EDD's international network.

KDD's monopoly on international links was broken by the telecoms law, but it is still waiting for the competition to materialise. But Cable and Wireless, which has been completely privatised only since 1985, still has powerful political friends. Early this year, when IDC seemed on the point of here in general excluded, Mrs Thatcher appealed directly to Mr Yasuhiro Nakasone, Japan's Prime Minis EDD's international network.

KDD's monopoly on international links was broken by the
telecoms law, but it is still
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materialise. But Cable and
Wireless, which has been completely privatised only since
1965, still has powerful political
friends. Early this year, when
IDC seemed on the point of being excluded, Mrs Thatcher appealed directly to Mr Yasuhiro
Nakasone, Japan's Prime Minister.

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But international traffic has been growing at more than 25 per cent a year, much of the increase being due to the introduction of efficient facsimile machines. Tokyo's position as one of the world's three main capital centres is also pushing up demand.

The Ministry's solution to the conflict was to try to force the two groups to merge, and earli-

conflict was to try to force the two groups to merge, and earli-er in the year it seemed as though C libh, the leading Japa-nese partner in IDC, would ac-cept a compromise. But C&W re-fused. The merger would have cut its stake in the new carrier from 20 per cent to somewhere

Nakasone Japan's Prime Minister.

Iter.

Japan sorely needs competition in international telecoms. It costs more than twice as wices across the American much to telephone Britain from mainland. The Pacific cable

Get in on the mobile communication revolution



would complete its circuit and allow it to offer global connections.

Mitsui and Company and including 52 other firms, sees things a little differently. Its

members were as adament that a new cable will be a financial disaster. If they get a licence, they will be in the business of reselling capacity leased from KDD (not a healthy situation, IDC maintains), the international

al satellite consortium Intelsat and, if it is built, even the IDC

cable. It is quite normal for ri-val carriers to lease expacity on each other's systems, at least for the purposes of backing up their own systems.

IDC got a big boost at the time that it announced the new operating company for its services. The motor company Toyots, which had been cannily backing both horses with stakes of around 3 per cent, demonstrated its support for IDC by upping its stake to 15 per cent, and providing Mr Gentaro Tsuji, its vice-chairman, as IDC's new chairman.

Both companies, if successful, aim to start up their services as early as 1989.

John Woodford Tokyo

tions.

The Japanese Telecoms Ministry is clearly unhappy about the new cable: it worries that the huge increase in capacity which it and a cable which is being laid by KDD and AT&T represents could trigger a damaging price war, despite its efforts to prevent one by fixing the prices which any Type I operator can charge.

To attract any customers, the

erator can charge.

To attract any customers, the new companies will need to offer discounts of 20-25 per cent below KDD's tariffs. IDC says it is aiming to capture only a modest Y30bn of the Y500bn it expects the international market to be worth in 1994.

to be worth in 1994.
But the organisation most at

risk from any international ca-pacity glut is C&W. Sir Eric Sharp, its chairman, points out that every time international capacity has been increased in

the past, new uses have been found for it. He envisages won-ders like international video-conferencing computer-aided

conferencing, computer-aided design and real-time global stock control.

ITJ, however, which is a con-sortium led by the trading hous-es Mitsubishi Corporation and

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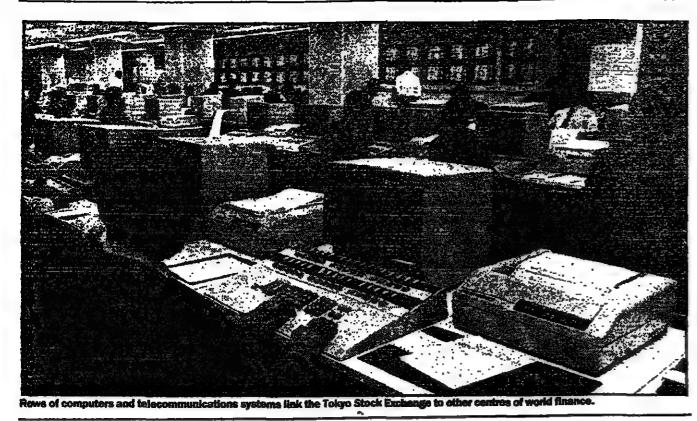
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Mobile telephones in Japan

Powerful connections matter

DESPITE THEIR love of elec-tronic gadgetry, Japanese con-sumers have yet to flock to the equipment to consumers for anmobile telephone market in a other two years, given the long big way. This could change raplead time required for establidy, however, as the sector is lishing a mobile telephone netfinally opening up to private work. None the less, their very

This autumn, the first three competitors to Nippon Tele-graph and Telephone, Japan's former monopoly supplier, opened their doors for business. Significantly, two of them plan to use a foreign supplier, Motorola, for their equipment.

According to domestic esti-mates, Japan's sales of mobile telephones currently amount to less than 0.8 per cent of the po-tential market. This is well be-low the level of penetration in the UK, for example, despite the greater affluence of Japanese businesses compared to their UK counterparts.

Still, most expect this per-centage to grow swiftly. The use of car telephones in Japan increased from 64,000 units in 1965 to 90,000 units last year. This year, NTT says, the number of units sold will top 125,000. Estimates for future growth vary from 1m units by 1995 to 4.5m

work. None the less, their very existence is the result of a long, bitter struggle between the US and Japan on market access for foreign suppliers. The US won the struggle, but only to a limited extent. The episode once again highlights the difficulties which foreigners face when trying to crack the Japanese market.

The struggle took nearly two years and involved trade negoti-ators from both countries at the highest level. After resolving technical barriers to trade through these negotiations, Mo-torola joined hands with new telecoms company, Daini Denden. The Japanese partner ran into trouble, however, when it sought a licence to operate from the Ministry for Post and Tele-communications.

The Ministry decided to approve a licence for only one competitor to NTT and indicated that a more powerfully con-nected applicant, Teleway Japan, would gain that approval.

After fierce protests from the Americans, the Ministry agreed to give two licences, but restricted the geographical areas in which each company could operate. Earlier this year, Televary received a licence to operate. way received a licence to operate in the lucrative Tokyo area, while Daini Denden got the Osaka area, Hiroshima and southern cities.

The US Government again protested, but Daini Denden decided to stick with the comprocided to stick with the compro-mise agreement as the Govern-ment showed no signs of budging. The two companies have proceeded to move into the market in a typically Japa-nese way. Each group is now setting up subsidiary compa-nies to provide their new ser-vice. These new companies, in-cluding Teleway's Nippon Edo Sushin and Daini Denden's Kansai Cellular Telephone and Kyushi Celiular Telephone, in-volve heavy minority participavolve heavy minority participa-tion from important companies in their areas.

Teleway's company, for example, includes Tokyo Electric Power as a prime minority shareholder. Daini Denden's Kansal company includes Kan-

sai Electric Power, Osaka Gas, Sumitomo Metal, Suntory and Wacoal as shareholders.

According to Mr Tadashi Kagawe, managing director of mo-bile communications for Daini Denden, the utility companies will be able to help the new companies with management skills and engineering know-how, as well as locating office space and other needs.

Mr Kagawa save it remains Mr Kagawa says it remains anclear whether the new companies will be able to undercut NTT's prices as pricing is currently controlled by the ministry. Most believe, however, that the new companies will be able to bring prices down after they begin operations in 1980. begin operations in 1369.

In the meautime, NTT is also making plans for expansion in the mobile telecom market. It plans to expand its network to cover 28 new service areas in this fiscal year. This will mean that more than 550 cities will be covered by the NTT network by the spring of next year.

Japan's equipment makers

Staying ahead of the pack

CATIONS equipment makers are facing both new challenges and opportunities with the pri-vatisation of NTT and the liber-alisation of the domestic telecommunications

NTT, at part of its cost-cutting market promotion, says.

Those firms with the size and efforts to meet the competition
from four new common carriers,
resources to cut costs and mainhas increased pressure on suppliers to cut prices, eroding the comfortable position of the so-called NTT family. The four family companies—Fujitsu, Hitachi, NEC and Oki Electric Industry—come had a virtual month. dustry — once had a virtual mo-nopoly on the NTT market, but now face stiff competition from new entrants, both domestic

new entrants, both domestic and foreign.
On the plus side, the liberalis-ation has helped fuel a boom in demand as private companies rush to instal systems to take advantage of promised lower lelecommunications costs.

lelecommunications costs.

NTT itself is also investing heavily to move from analog to digital and otherwise update its networks to compete with the new carriers. The firm's plant and equipment investment totalled YL6 trillion in the fiscal year action lates A will of which year ending last April, of which about Y800bn was for equip-ment purchases, and is project-ed to rise 10 per cent to nearly Y1.8 trillion this year.

its costs have created even greater demand for telecommunications equipment," Mr Susumu Miznsawa, general manager Canada's Northern Telecom at Fujitsu in charge of telecom last year won a contract to sup-

tain heavy research and development programs are likely to come out ahead, but others may

not survive.

Under the family arrangement, NTT carried out joint R&D efforts with the four companies and purchased almost exclusively from them. They in turn organised smaller firms underneath them, sharing technology in return for a stable and loyal supplier relationship.

The first change in this structure came in 1981 when NTT adopted Gatt procurement standards, but the shift to non-traditional suppliers accelerated with the April 1985 privatisation. In August of that year, NTT reached agreement with non-lamily member Toshiba to carry out joint development of PBX switching devices. Nearly all of NTT's procurement stems from the part of the part of the procurement stems from the part of the NTI's procurement stems from joint R&D efforts, and having access to that research gives firms an indication of what directions NTT is going in.

tender in the telecom market.

Among foreign companies. Canada's Northern Telecom ply \$250m worth of central switching equipment over a five-year period, beginning in

The market share of the newcomers is dwarfed by that of the former family companies, which are still benefiting from their

The competition has be-

come severe, but there is even greater demand for telecommunications equipment.'

longstanding ties with NTT, but

seems certain to grow as rela-tionships between NTT and the new entrants develop. While competition has yet to cut into market share, it has already had a dramatic effect on profits. The average discount on sales to NTT has increased from 40 to 60 per cent of list price, says Noboru Ishihara, an analyst at Nomura Research Insti-

severe, but the reduction in line member of the Matsushita Set and facsimile machine marcharges and NTT's efforts to cut its costs have created even powerful near the set and facsimile machine markets have become so fierce that group, has also emerged as a kets has become so fierce that powerful new domestic conmany participants are not able to turn a profit. At the same time, a slump in the export mar-ket following the sharp appreci-ation of the yen against the US dollar has added to the industry's difficulties.

A strong effort to move into international markets has pushed the proportion of ex-ports in total sales from 20 per cent in the mid-1970s to 40 per

Oki Electric, by far the smallest and most dependent of the former NTT family members. recorded a net loss of Y2.4bn in the fiscal year ending in March 31 and is already being men-tioned as a possible takeover target. The other telecommuni-cations makers are disapplified. cations makers are diversified and large enough to weather the current storm, with operations in computers, semiconductors, home electronics and in Hitachi's case, electrical plant equipment

At Fujitsu, which less than 30 years ago relied on NTT for over 50 per cent of its sales, the telecommunications sector accounts for just 18 per cent of to-tal revenues, only about one-third of which goes to NTT. The NTT proportion is likely to fall further because of growth in sales of internal telecommuni-cations systems to companies, Fujitsu's Mr Mizusawa says.

In the long run, the key to success in a liberalised market will be the ability to compete both cost-wise and on the technology

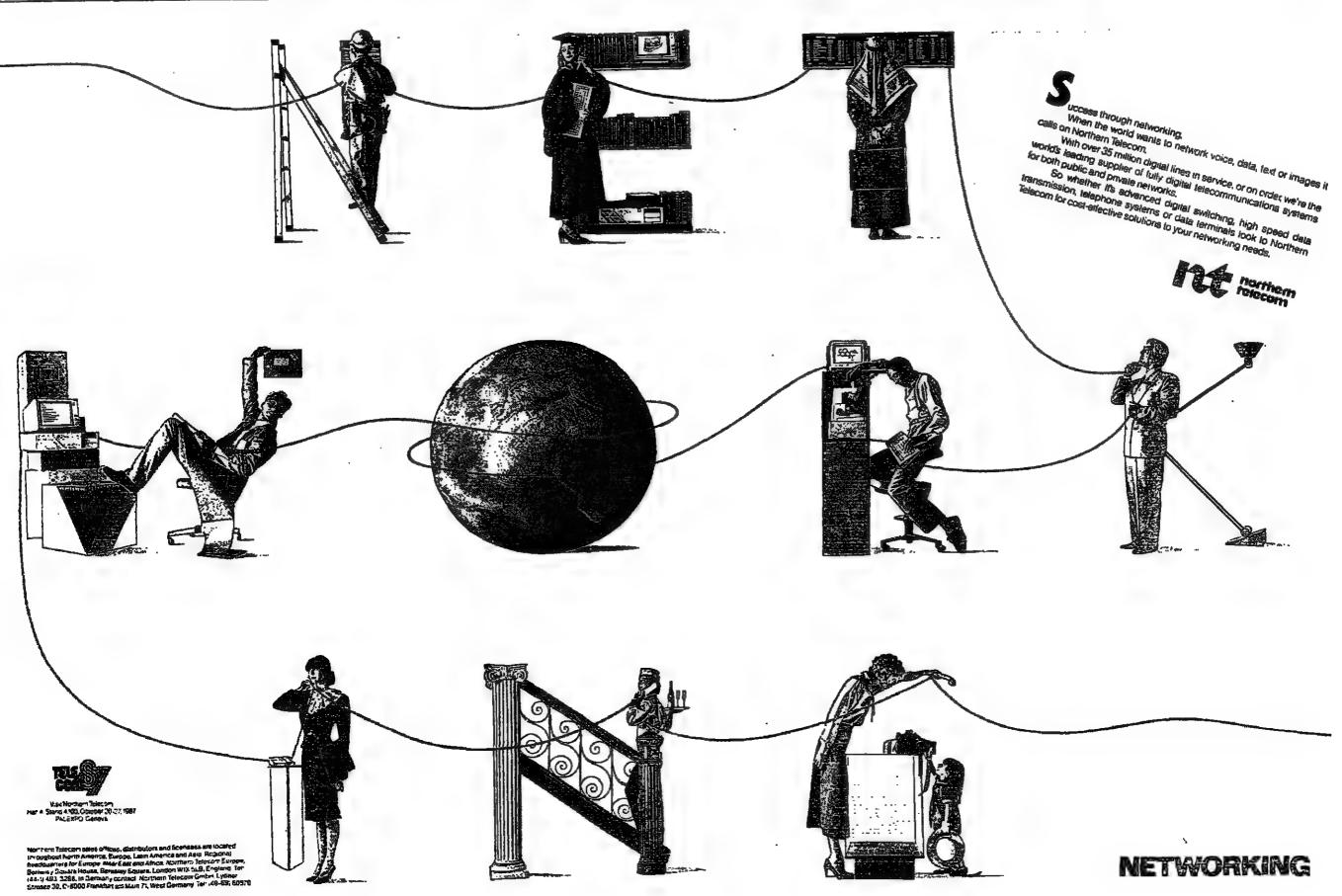
The equipment makers have shifted NTT's demands in part to their suppliers, pressing them to lower prices. They have also begun to look outside their group for parts and compo-nents, in some cases going abroad to the US and Europe and more recently to South Ko-res and the other Asian newlyindustrialising countries.

With cost-cutting measures and a large commitment to R&D already in place, the major makers may in the end benefit from the pressures of the new free market environment, says Nomura's Mr Ishihara. Forced of the control of the co to focus on staying shead of the pack. Japan's telecom equipment industry may emerge more competitive than ever in global markets.

Ken Moritsugu



turers are seeking to supply an ever-growing share of the world's demand



Still a long way to go

INDIA INHERITED only the bare bones of a telecommunications system from the British totypes of an indigenously dewhen it achieved independence in 1947. There were just 86,000 telephone connections spread over 320 telephone exchanges. Of the country's half million vil-lages, only 338 boasted a single

Over the years, a reluctance to spend money on telecommu-nications when other priorities such as agriculture, housing and commission. and clean water took prece-dence, has left the skeleton but thinly fleshed.

There are still only about four thousand in developed countries. Service is frequently appalling with up to 33 faults for each 100 telephones reported every month. Bangalore, home of Indian Telephone Industries (ITI), the state telecommunica-tions enterprise, has the worst telephone system in India. In the past three years or so,

however, the political mood has changed. Mr Rajiv Gandhi, the Prime Minister, has identified telecommunications as one of the key technological mussions for the country. Experts such as Mr B.S.Prabhakar, managing director of the state-owned Electronics Corporation of India say: 'I believe that telecommunications will determine the pace of technology in India'

India is now two years into its seventh five-year plan. By the and of the century the aim is to have 30m main telephone lines compared with 3.5m lines at to Mr B M Khanna, general manager of the Mahanagar Telephone Nigom, the agency re-sponsible for sponsible for telecommunications in New

Delhi and Bombay, spending some Rs500bn (about \$38.3bn) over the next 13 years.
Whether this sum can be found remains an open question, especially as budgets for the present five year plan are being scrutinised as a conse-quence of this year's drought.

Nevertheless, Indian telecommunications is in the middle of its greatest period of change technologically and financially since the first telephone exchange was established in Calcutta only five years after Gra-ham Bell invented the

signed family of switching systems to take India into the era of all-digital telecommuni-

Switches lie at the heart of telecommunications systems; digital switches with stored program control are essential to modern telecommunications but are the very devil to design

Behind CDoT is perhaps the most unusual and interesting technologist in India today, Satelephones per 1000 head of ate who made his fortune depopulation compared to 800 per signing telecommunications thousand in developed counswitches in the US, and who has returned to live in his native country and show it how to create the kind of communications technology best suited to India.

He asked the Government for three years and Rs360m (about \$27.58m). After considerable debate he got it and his team of young engineers set to work in a converted New Delhi hotel with telecommunications companies ringing in their ears.

Three years on, it is those ex-

perts who are having to eat their words. CDoT has designed and built an exchange suitable for rural areas: it has designed and built a small business evchange. And its principal project, the 16.000 line main exchange is ready for final testing.

Some 40 companies have already taken CDoT licences to manufacture the components of the CDoT exchanges and the mood in government is that In-dia's indigenously developed technology will form the basis

tilry. Mr Pitroda explains with devastating logic why he was so sure his ideas would work. While most existing exchanges have been developed out of necessity using yester-day's technology, he was able to start with a clean drawing board and use the most advanced processor and memory

of its advance in telecommuni-

cations through to the next cen-

The quality of Indian software is excellent and program-mers and systems analysts earn

of the Indian outback.

Western telephone switches like the Strowger and Cross bar systems which still predominate in India and even the CIT-Alcatel E10B which formed the basis of India's first digital switches were designed for heavy telephone densities and low line traffic.

The opposite conditions obtain in India - low telephone agnostics and developed a pic-torial method of displaying faults to make maintenance eas-

Even so, developing a highly Even so, developing a nignly sophisticated device like a switch in India presented unusual problems. It took 18 months to train a metal working company to build the frames which carry the printed circuit boards to the correct toler-

CDoT at present, therefore, seems to have the edge over CIT-Alcatel and other telecommunications manufacturers in the competition to provide India's next generation

The country's principal telecommunications suppliers - In-dian Telephone Industries(ITI), Bharat Electronics and Hindus-tan Cables - are state-owned. show high production costs and slow deliveries.

Both ITI and the Department of Electronics, however, complain that their development has been hindered by a scarcity

of funds over the years.
The Government is now well aware, however, that money has to be spent in large amounts if India's telecommunications are to be brought up to date.
In one major shift in policy,

plans have been developed to allow money to be raised through public offering and the creation of a Telecommunica-tions Finance Corporation. The success of Europe's Ariane satellite launcher earlier this year must have cheered Indian telecommunications ex-

The Indian multi-function Invery low salaries by Western sat satellite has made a remark-standards. A \$36m project in in-dia is equivalent to a \$400m in munications across the country. Launched in 1983, it provides the US.

The most important technological development was the formation three years ago of the Centre for the Development of Telematics (CDoT), a govern
the US.

OHE was designing for Indian 3,956 telecommunications circuits relaying information between 29 fixed and three transportable earth stations.

There had been worries how-

had been to launch a second satellite, the Insat-IC, using the US shuttle as launcher.

Those plans had to be put aside after the shuttle Challenger disaster two years ago and fresh plans made to launch from Ariane. Its long run of suc-cessful launches, however, was broken by a series of technical mishaps.

These now seem to have been density and a huge number of overcome and India's latest calls per line. So Pitroda's destep towards an efficient telesigns took these condition into communications system should account. He built in remote dily next year.

Japan West Germany

Italy United Kingdom Canada

China Spaln

Sweden Mexico Brazili

Austria Indone

Argentine Seudi Arabis Hong Kong

Netherland Norway East Germa Belgium Venezuela Grance

Egypi Hungary

South Korea india. Australia

10.

11. 12. 13. 14. 15.

16. 17.

31. 32. 33. 34. 35.

36. 37. 38. 39. 40.

24,313.0 9,800.0 7,100.0

6,100.0 4,960.0

4,522.0

1,752.0 1.650.0

1,494.0 1,462.0 1,360.0

966.0 946.0 365.0

704.0

698.0

897.0 811.0 809.0

484.0 436.0

328.0 328.0

314.0

257.0 246.0 231.0 228.0

201.0 188.0

World's top 50 markets

8. 9. 10.

11. 12.

13. 14. 15.

21. 22. 23. 24.

25. 26. 27.

28. 29. 30.

31. 32 33. 34. 35.

36. 37. 38. 39. 40.

<u>China</u>

Giant leap forward

CHINA'S TELECOMMUNICA- lines and direct dialling ser-TIONS, archaic until the 1980s, vices to 17 countries. The num-have made giant technological ber of telegrams rose by over leading to Hongkong and China's four Special Economic leaps in the last few years from 50% and long distance tele-was was effectively a vices to 17 countries. The num-ber of telegrams rose by over China's four Special Economic Some Services and direct dialling ser-rect dialling to Hongkong and China's four Special Economic Zones, where foreign invest-ment is specifically appears what was effectively a 1940s level. Though facilities like international direct dialling are still pared to January-June 1986.

phone calls by nearly a quarter ment is specifically encouraged, were not far behind. The latest to January-June 1986. strictly limited, it is now possible from a growing number of Chinese cities while satellite technology, programme con-trolled telephone exchanges and optical fibres have begun to

play significant roles. Growth has come fast. For in stance, in 1980 Peking had only 86,000 phone channels.it now boasts 161,000. Other major boasts 161,000. Other major cities have seen similar expan-

By the end of this year China had over 50,000 trunk telephone

Japan West Ger Italy

China South Kores

Austrie Brazil Tawen

Argentina Saudi Arabi

Hong Kong

Norway East Gen

Pekistan Belgium Gresos

Venezuela Singapore Turkey Denmark New Zealan

Finland Bangladesi Poland

Czechosio

27,191.3 13,402.0

8,456.0 7,684.0 6,734.0

6,161.0 4,718.0 3.000.0

2050.0

1,919.0 1,732.0

1,307.0 1,144.0

913.0

786.5 772.0

705.4 643.0

601.9 539.6 519.0 502.9

481.9 427.7

402.8 370.4 367.5

363.6 317.3 304.9 283.0 280.0

Typical of the growth is Shanghai's new telecommunications building. This will house 400-line programme controlled international exchanges bought from Belgium, 4,000-line ex-changes from Sweden and terminal equipment for the Pacific communications satellite and the Sino-Japanese submarine cable. This is due to be finished this year. With this new technology. Shanghai's total of direct-dial trunk lines will rise from 100 to 20,000.

Wuhan, central China's most transformed into a giant communications centre with five new microwave trunk lines, 1,800 intermediate carrier frequencies on its lines to Peking and Canton, and il,000 digital programme controlled ex-changes. These were supplied by American Telephone and Telegraph and are due to start operating next year.

Wuhan is also installing an imported long-Odistance optical fibre cable system to Nanjing, and 2,000- channel programme controlled telegram equipment from Switzerland. Enhancing these improvements are som automatic long-distance exchanges.

Sichuan province, in south-west China, is installing a digital microwave telephone system which will add over system which will add over 3.800 long distance lines to the existing network. This will provide direct dialling between the provincial capital. Chengdu, and half a dozen other major cities. Two thousand lines are due for completion next year.

Last February Britain's Cable and Wireless signed a 21.3 m contract with Guangdong for an optical fibre cable system between the province and nearby Hongkong. This will provide over 40.000 lines for data and forming the transition of the state facsimile transmission. C & W is also working on developing modern comunications in other parts of China. Over recent years the British company has signed around a dozen co-operative contracts with Chinese or

Guangdong and other coastal areas have raced shead in the telephone stakes because of for-eign commercial needs. Canton

foreign business - and the four SEZs now have four times the number of automatic dialling services they had in 1983 and 24 times the number of telex lines. China has recently imported computer controlled switchboard systems from France, the USA, Belgium,Sweden, Japan,

Britain and west Germany. Fuzhou,capital of Fujian province which adjoins Guangdong, has just added direct dial lines for nine new countries to

Satellites figure large in China's ambitious plans for developing its telecommunications

theirexisting international fa-cilities which include direct di-ai to the US, Europe Japan and Hongkong.

Fujian is also building an optical cable digital communications system for domestic calls, of which 53 kilometres will be finished this year. Japan's Fujitsu is due to establish a Yen 500 m joint venture with the province to develop software for its digital phone switching

By the end of 1986, the official news agency reported. China had 8 m telephone sets, with nearly half a million new lines added in the previous twelve months. The country completed 650 projects, including urban phone facilities, microwave and established the country completed satellite stations.

China has begun to use satel-lite communications to link Peking with Lhasa (in Tibet), Urumqi (Xinjiang), and Hobbet

(Inner Mongolia).
On the international side, 90% of China's telecommunications or cannot telecommunications are handled by satellite. The country now has direct circuits to 35 countries and nearly 750 international satellite communicational satellite commu-nication lines. International phone calls and telexes have risen by around 50% annually over the past five years. After adding satellite links over the Indian and Pacific Oceans, Chi-ne can handle televice phone na can handle telex, telephone, telegram.facsimile, radio and TV broadcasts.

China is now offering its own satellite service to other coun tries after its success in launch. ing and recovering its first "piggy-back satellite for France last summer. With disasters in the US shuttle programme and the French Ariane project, Pe. king's offers have begun to look attractive. Its own programme appears to have gone well since its first communications satel. lite launched in April 1984, 18 officially reported to h ave completed its three-year experimental work load.

Peking is now researching into its own space stations, along with proposals for a small shuttle. Under its plan, the payload capacity of its present rocket, the Long March 3, will be inthe Long march 3, will be increased so that by 1992 it will be able to carry 2.5 tons into synchronous orbit. In 1993 a new version of this rocket will come into service, the CZ-34L, which with its eight booster rockets will be able to carry 22 tons (equivalent to the Soviet Mir space station) into orbit near the earth and take an effective payload of up to seven tons to the Moon and Mars. For the end-1990s China plans a station in space and a small shuttle to carry personnel and supplies to

Satellites figure large in China's plans for communications, weather surveys and resource exploration. A new weather ground station has recently been approved by Peking which will process information sent by a satellite, FEngyun L to be launched soon. Satellite ground stations in China, mostly used for TV, now number over 1,300.

China today claims one of the world's most advanced systems of naval communications, developed in the first place for its re-cent survey of the Anlarctic. It was also used on other recent long-distance naval trips, nota-bly to the Spratly Islands, near Brunei, which Peking claims as Chinese. The People's Daily claimed that this superlong wave system was one of the world's most powerful, and praised the navy's advanced long-distance shortwave tele-

communications system. These developments are spectacular, if isolated. For the average citizen in China, most of the old frustrations of the telephone system remain. But in the vital areas of commercial areas contacts, space technology and the military, China has indeed taken a great leap forward.

Colina McDougali

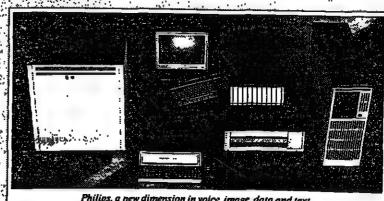
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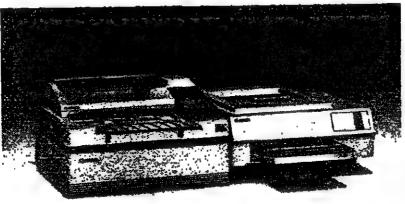
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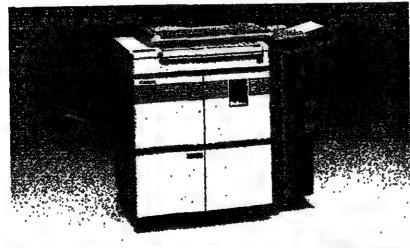
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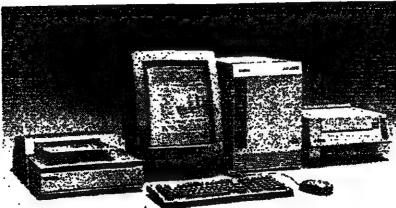
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Datex-P connections

WORLD TELECOMMUNICATIONS 26

Prospects for manufacturers of public telephone exchanges

Future less certain than ever

THE HALF-DOZEN or so companies which supply the world with public telephone exchanges (switches) are less certain than ever about their short even though ISDN will not be-and medium-term prospects. come a widespread public ser-Their domestic markets are be-coming saturated; the only route to continued growth is to enter unfamiliar foreign mar-

One area of certainty is that they must make products that work with ISDN. This is a set of international standards adopted by the world's telecommunications administrations (PTTs) that integrates all transmission

market leader in public switch made.

All these will be available with the arrival of ISDN. But this Is not quick enough for tles and the French group CIT
PTTs and their customers. So Alcatel in January this year. To the switch makers at Geneva day Alcatel is introducing a are determined to show this small switch (under 3.800 lines) week that they can provide aimed at towns and industrial ISDN look-alike services now,

scale. West German engineering giant Siemens, now pushed into third place in the league, is unveiling a huge 100,000-line switch intended for cities.

switches on show at Geneva, work with ISDN. It is the mini-mum technical qualification to get on PIT buyers' short lists, vice until 1990 at the earliest.

The PTTs feel pressure from their subscribers to provide the services that come with the new generation of switches. Top of the list are itemised billing, compatibility with computer networks and higher reliability.

PTTs are also staring deregu-lation and competition in the face for the first time. There-fore they look to new customer services - voice, data, text and services both to gain subscrib-image down a single telephone ers and to generate cash. There wire. The central switch con-trols any ISDN network. wire. The central switch controls any ISDN network.

There is no shortage of new ISDN launches today in Geneva.
All eyes will be on Dutch regismultiplies the number of calls

arks, to be compatible with the real
At the other end of the switch thing when the time comes.

These, and all the other their small domestic markets,

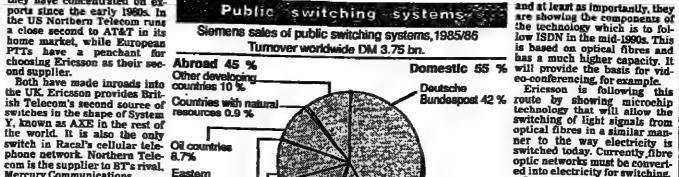
they have concentrated on ex-ports since the early 1960s. In the US Northern Telecom runs a close second to AT&T in its home market, while European PTTs have a penchant for choosing Ericsson as their sec-

the UK. Ericsson provides British Telecom's second source of switches in the shape of System Y, known as AXE in the rest of the world. It is also the only switch in Racal's cellular tele- Ol countries phone network. Northern Tele- 8.7% com is the supplier to BT's rival, Mercury Communications

Such exports rely heavily on Such exports rely heavily on the technical excellence of the product. Racal's network is technically as good as the rival run by BT subsidiary Cellnet, although BT had first choice of switch. It also provides the tech-nical basis for Racal's publicly-stated desire to become a third force in public telecommunica-tions to rival BT and Mercury in the 1990s.

Mercury chose Northern Telecom at least partly because it can run the Centrex service which has become popular in the US. Centrex eliminates the The two companies most successful at doing this over the past couple of years are LM Ericsson of Sweden and Canada's ployed, on office space, staff Northern Telecom. Because of their small domestic markets.

and electricity.
Whether Centrex takes off in



Europe as it has in the US large-ly depends on the tariffs set by PTTs. However, the summer of 1987 saw both Northern Telecom and Ericsson batting on an increasingly sticky wicket. Northern Telecom has failed to make much of a dent in European markets. Apart from Mercury, it supplies only the Turkish PTT.

Industrial countr

Industrial countries

overseas 15 %

Ericsson's six-month profits to June 30 declined 11 per cent, and its prediction that it would take orders of more than 1m lines from British Telecom re-

bounded when the June round of orders left British subsidiary
Thorn Ericsson with nothing.
Nevertheless, Thorn Ericsson is
going ahead with plans to expand central switching manu-facture at Scunthorpe.

Other domestic

This luli in the fortunes of the two high flyers may let in com-petitors. GEC and Plessey have devoted an entire exhibition stand to their switch, System X, in addition to their own individ-

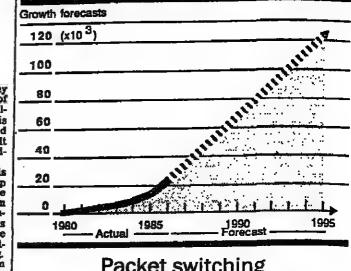
They are launching their smaller version of System X,

and at least as importantly, they are showing the components of the technology which is to fol-low ISDN in the mid-1990s. This

optical fibres in a similar manner to the way electricity is switched today. Currently fibre optic networks must be converted into electricity for switching. Japanese switch makers, on the other hand, are emphasising their expertise in office equipment at Geneva. In any case, the huge cost of developing a switch, and the time-scales involved in marketing one mean ing a switch, and the time-scales involved in marketing one mean that much of the smart money must be on AT&T and the new colossus of the industry, Alcatel's biggest-ever order for its System 12 switch. The buyer, spending about Ecu 220m (about £150m) was the West German PTT.

Alcatel's investment in 11 stands at Geneva dwarfs its rivals. The demonstrations include the first link-up between the switches inherited from FTT (System 12) and Cit-Alcatel (E10).

Danny Green



Packet switching

Aiming for the error-free network

DATA NETWORKS around the it world are increasingly making To use of packet switching. Not only does it reduce data errors at that can occur during transmission, it also increases the utilisation factor of the telecommunicisal

In packet switching, as the name implies, the data is divided up into discrete packages of data, each with its associated source and destination ad-dresses together with error checking elements.

Data enters the packet switch-Data enters the packet switching network at a packet assembler/disassembler (PAD) where this error checking information is appended to each packet. When it arrives at its destination, the PAD verifies that all packets are error-free and that none has been lost in transmission. In the event of a faulty or sion. In the event of a faulty or missing packet, the PAD will re-quest the necessary retransmis-sions.

Should a line failure occur, the switches automatically route subsequent packets via an route subsequent packets vis an alternate path so that the user suffers least disruption. This is in contrast to the circuit switching that is used for ordinary telephone calls and circuit switched data where the connection would have to be restored and, in many cases, the entire block of data retransmitted. Where leased lines are used for data, the dial-up network is often used for back-up in the event of major line fault.

For the telecommunications

For the telecommunications authority which has to provide the services - and therefore the and the services - and therefore the anser by whom the costs eventually have to be paid - another advantage of packet switching is its efficient use of resources. In circuit switching, when no actual traffic is being carried, the line is normally unaveilable. line is normally unavailable for any other user. On the other hand, packet switching allows the lines to carry packet out discrimination, up to their maximum capacity.

Packet switching networks are becoming widely available throughout the world with British Telecom's services being known as Packet Switchstream (PSS) and International PSS (IPSS).

Access to the PSS network is via a PAD to which large users have direct connections. Dialup access is provided for small or occasional users. This access is over the public switched talephone network (PSTN) and so the speed of access is limited at present. When ISDN eventually becomes the universal switched telecommunications service, the user will have high-speed

Packet switching is widely used as the bearer for a variety of services: information retrieval from a remote computer data-base; allowing a large number of remote terminals to timecomputer; electronic mail; the bulk transfer of bulk computer; files; as well as for credit card validation and airline booking systems which are highly inter-active.

As well as public access, a switches currently installed by NT or other suppliers and can group can develop its own system of communication within PSS. This network could support electronic mailboxes, file transfers, large financial transactions and information management systems. Some of these post forecasts. Days forecasts. Days forecasts.

MultiStream, provides a num-ber of services for dial-up users. These include EPAD which supports asynchronous protocols

Total transaction time on the authorisation telephone is around 20 seconds on average, as compared to the two to three minutes for a standard authorisation request on the PSTW (public switched telephone net-MultiStream has just been ex-

tended, following extensive irials, with BPAD and SPAD which support respectively IBM's 3270 BSC and SDLC pro-IBM's 3270 BSC and SDLC pro-tocols. Both of these services of-fer accurate and error-free communication and provide complete dats integrity (which is inherent in the IBM protocol by supplying end-to-end error detection and recovery. This en-that are commonly used on per-sonal computers and data terthat are commonly used on per-sonal computers and data ter-minals; VPAD which provides videotex (Prestel) across PSS; and TPAD which is used for credit card validation via Cred-sures that the information ar-rives safely and securely at its appointed destination. As well as offering a networking ser-vice, SPAD and BPAD also en-ables users of these protocols to ables users of these protocols to communicate with minimum change from their established

IPSS provides the international gateway to more than 50 overseas data networks. A PSS customer can obtain interna-tional access by keying in the appropriate Data Network Identity Code in a similar man-ner to that used by a telephone user prefixing a telephone num-

Another advantage of packet switching is its efficient use of resources

ber by international access and country codes.

All networks strive to achieve a high degree of availability.
This can be put into perspective
by looking at the reliability
schieved by public data networks in this country and elsewhere such as Datex-P, the packet switched system of the German telecommunications authority, the Deutsche Bundes-

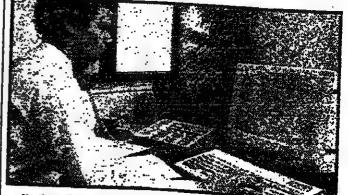
Their existing system, provided by Northern Telecom, has achieved an availability record of 99.95 per cent. In essence, this is only five hours of non-availability per year for hardware and software changes, and other down. ware and software changes, maintenance and other down-time. Next generation systems in the UK. Germany and elsewhere will call for even better system availability: 99.997 per cent - a total downtime of only 15 minutes a year.

The Bundespost is now planning a 10-fold expansion of its network to take it into the 1990s. Northern Telecom, one of two contenders for the contract for the new system, has just announced a new data packet switch. It is more powerful by an order of magnitude than switches currently installed by

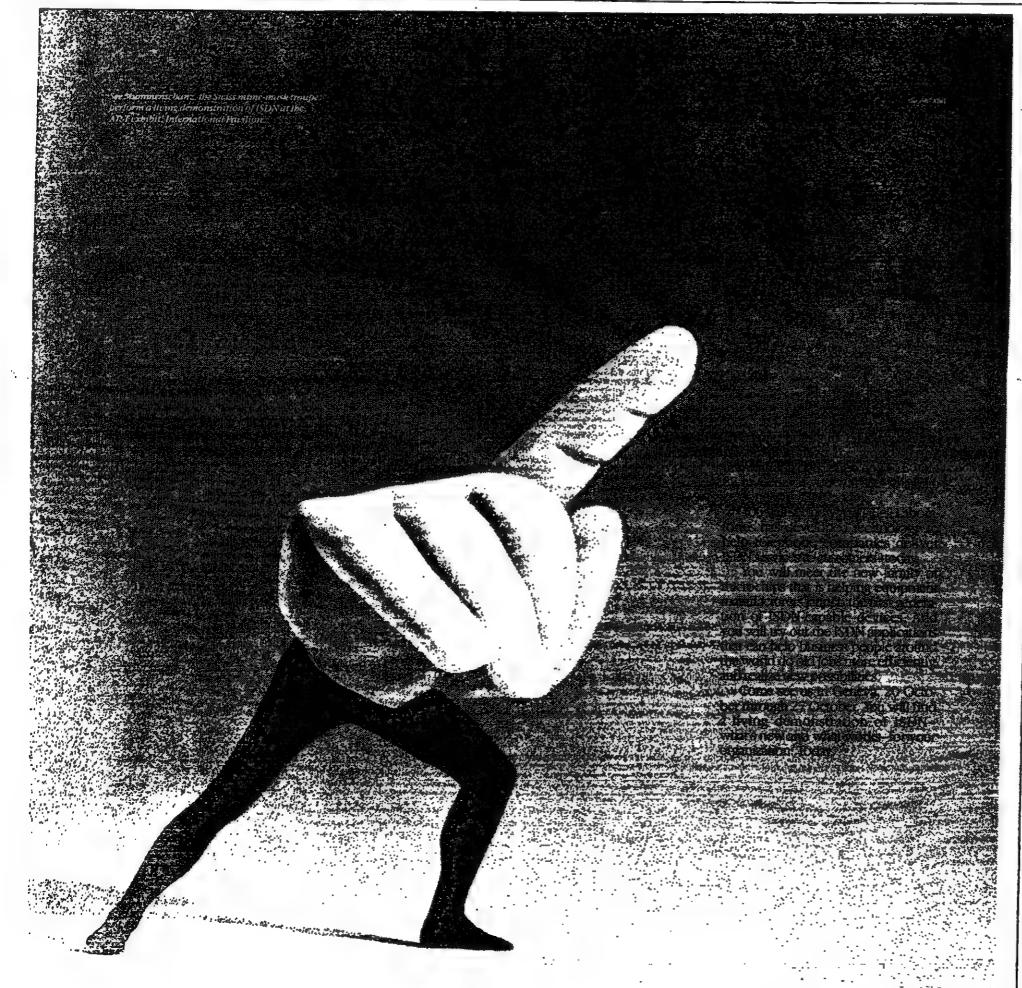
ransfers, large financial transactions and information management systems. Some of these applications would require regular low-volume traffic and others high-volume traffic, at specific, possibly irregular times.

BT's public data network, MultiStream, provides a number of the expected to cost between \$100m and \$150m between 1989.

Adrian Morant



with an ISDN telepi e conpocis a PC





Transmission equipment

Era of radical change

WHILE SWITCHING is generally seen as the glamour part of the telecommunications industry, transmission is usually regarded as boring. There are signs that this is about to change dramatically, and in Eu-rope at least, the UK is leading

the way.

The battle for business cus tomers between British Tele-com and Mercury Communica-tions has been pushing the UK ahead in adopting the most modern and in some cases ploneering transmission tech-

Mercury, for instance, has already placed some 6,000 km of optical fibre in the 240 km of pipes under the City of London it bought from the defunct London Hydraulic Power Company. Nationally it has laid over 7,000 km of fibre And all of the landon the company. km of fibre. And all of this dur-ing just over three years of ca-

There is hardly a business building in the City which is not either connected to our network or within throwing distance,"
comments Mr Gordon Owen,
Mercury's managing director.
"Ours is the first all-digital
network in Europe. It's Mercury's aim to be at the forefront of
transmission technology to ensure that our customers get the
heat service at the most compet-

best service at the most compet-tive price, says Mr Owen.

British Telecom, the former
UK telecommunications mopopoly holder, is worried. It is striking back at its newcomer ri-

val with its big guns blazing. This year alone it is expected to instal 60,000 km of fibre in the City of London.

The City Fibre Network is British Telecom's £20m answer to Mercury's LHPC network. Like Mercury's system, it feeds optical fibre directly into the customers' premises. The major difference is in the degree of intelligence built into the network.

Whenever a City subscriber requests a private leased con-



- 1



Transmission equipment is no longer "the poor relation" of the telecommunication in the telecomm

the installation of a private chases of transmission equipleased circuit by British Telecom is currently 100 days. Within the areas covered by the City
Fibre Network, assuming a fibre is already installed to the
customer's building, it should be seen all share of UK telecomponics.

customer's building, it should take only a few days. And if a similar connection has already been installed it should take only a few hours to modify it or instal another one, secording to British Telecom.

Both of these examples illustrate the increasing importance of modern transmission techniques in improving services to the customer. Transmission is the customer. Transmission is going to play an increasing role as more and more of the public requests a private leased connection, a network management centre sets up a link via a modified version of the UK developed public digital exchange. System X. Unlike the switch when in its telephone exchange role, the connections are semipermanent, however. At the subscriber's end remotely configured multiplexing equipment completes the circuit.

The allows us to respond very much more rapidly and flexibly to the City's demand for private circuits, says Mr Denys Rennett, general manager of British
Telecom's City of London district.

The ordinary waiting time for that's all changing," he remarks. telecommunications but As an increasing part of the industrialised nations' switching requirement is fulfilled, transmission is the natural next transmission is the natural next transmission against is unique step for public telecommunications within 'Europe,' comments tions equipment makers to di-rect their attentions. AT&T Phi-lips estimates that the from transmission products has risen from around a third to nearly a half over the past three years. By 1990 it is likely to ac-count for the lion's share.

This view is supported by re-cant reports from the Telecom-munications Industry Research munications Industry Research Centre. It foresees a 60 per cent increase in worldwide spending on transmission to \$10.33bn in 1990. In the UK TIRC predicts spending to rise by nearly 90 per cent to \$684m. The bulk, some \$350m, of the UK's spending on transmission is assessed by TIRC to be appleaded; the by TIRC to be cable related; the rest is attributed to transp

Mercury currently accounts for less than 15 per cent of pur-

cent although this is significantly less than its 70 per cent over-all share of UK telecommunica-tions equipment purchases.

coming increasingly difficult to distinguish between different types of traffic as it is all trans-mitted digitally on a common multiplexed channel," notes the report's author, IIRC senior analyst Jack Stockdale. The differences will increasingly occur at the interface between the

Price comparisons

Typical British Teleponi India accretion in an india			
-	-	Inchine	-
Prence	128	174	_
Italy	119	129	
USA (New York City & AT&T)	116	106	_
dapan	108	140	_
West Germany	102	132	_
British Tolocom	100	100	_
Canada (Bell Canada)	99	60	
Australia	97	107	
Ketherlando	66	88	_
Spain	`56	74	_
Sweden	45	61	_

commitment to liberalisation. Then, there is the early move by British Telecom to digitalise its

national network. Thirdly, there is the rapid adoption of fibre optic transmission technology." TIRC believes that the radical changes which have taken place in the market structure for transmission equipment have been a direct consequence of

been a direct consequence of the dramatic change in trans-mission technologies:

The challenge of the future, according to TIRC, will be the change of emphasis from the trunk network, which has domi-nated demand, to shorter range junction and subscriber net-works. "Although there are still many developments in trunk transmission to come, the com-mercial incentive is now being mercial incentive is now being provided by the junction and subscriber networks," says Mr.Stockdale, "Designers of both systems and components must become more cost conscious. In reward they can look forward to

TIRC also sees a breakdown of the traditional classification of networks into trunk, junction and local. The falling cost of of multiplexers and the reduc-tion in the size and cost of switching are changing the eco-nomic equation, says the report. British Telecom, for example, has decided to reduce the num-her of its least explanate by ber of its local exchanges by a factor of six. This means that

factor of six. This means that the length of the subscriber loop will increase significantly, which can only accelerate the penetration of fibre. The Telecommunications Transmission and Cable Market in the United Kingdom is published by International Telecommunications Intelligence, PO Boz 1, Chichester, West Susser, PO20 GZR, UK. Telephone 0243 633915. Price 2395.

Integrated services digital network technology

New trials under way

THIS YEAR'S telecommunications exhibition in Geneva is in for a special treat, says Mr Karl Frensch, director of marketing for public switching systems at Siemens in Munich. Visitors will see, first hand, a working installation of the long-promised, multi-function telephone phenomenon of tomorrow: the integrated services digital net-

Using one of its flagship local exchanges, a telephone switching machine called the EWSD, Siemens will link the exhibition stands of 12 different compa-nies in such a network, called ISDN for short, on the public

telephone system.
"We will be able," says Mr
Frensch, "to demonstrate appli-cations such as fast facsimile, fast telex, data transmission, call forwarding, simultaneous voice and data...all that is possible on ISDN."

There are now a number of world. West Germany's telecom-munications operator, the Bun-despost, already has trials oper-ating in Mannheim and Stuttgart. France is beginning to offer a service. And, with the first commercial ISDN, Britain has 38 large-company customers

as the regional Bell operating or send when off-peak rates apply, companies push to engineering or ship different kinds of information - such as a telephone works. Equipment suppliers are having to tailor their machines to include ISDN in the Bell companies' traditional phone

feature system, called Centrex.
More than a dozen Bell companies have ISDN trials underway. They see the technology as a way to recoup profitable mar-ket share lost to suppliers of ket share lost to suppliers of pashides in intriple networks. features and invices that 'by. one for telephones, another for pass' the Bell-controlled net-facsimile, another for local-arwork. In particular, the market ea (or LAN) computer linkages. for private branch exchange, or work. In particular, the market for private branch exchange, or PRX, equipment that brings phone functions to user premises (and out of the Centrex loop) has taken that lucrative value added business away from the Bell companies.

Because of this market pull, ISSIN is certiful aband in the

Because of this market pull,
"ISDN is getting ahead in the
US," concedes Mr Frensch of
Stemens, who himself has ISDN
equipment in field trials at five
of the seven regional Bell companies. Siemens also sells ISDN
PBXs.

ISDN is a concept for using
"That stands for two channels

PBX.
ISDN is a concept for using the world's existing telephone system to greater advantage. The thinking is that, with the telephone lines aiready in place, they can be used for more

that route calls automatically in the analog form of voice com-munication. Now these, too, are disappearing.
In their piece are computerised switches; machines that
.can receive and route informa-

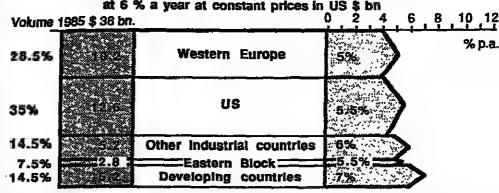
can receive and route informa-tion in the digital language of the computer. These digital switches require far fewer peo-ple to run and maintain them, and hence they reduce costs.

The majority of the equipment going in these days - over 80 per cent - is digital, says Mr

Peter Copping director for tele-communications practice at the PA Consulting Group in Lon-The new digital technology

has another advantage: it brings the power of the computer to communications traffic. Be-cause all of the traffic, whether voice, data, video or simply the

Public communications networks The worldwide market showing annual growth (1985-1990) at 6 % a year at constant prices in US \$ bit



Source: Skimming

US \$ 1=DM 294

sets of instructions that accompany the information, travels in digital form, the computer can be used to manipulate it.

This makes possible a vast array of functions and services on a single "digital highway," an integrated services digital network, or ISDN.

has 38 large-company customers for its fledgling network.

In the US, ISDN is taking off transmissions, hold others to mation - such as a telephone call and a facsimile - simultaneously. It can handle special call management features, such as forwarding, abort dial, con-ferencing and automated bill-

mand among business custom-ers. Many already use such ca-pabilities in multiple networks: traffic, companies also lease private lines from telephone

operating companies.

ISDN promises to take the whole burden, carrying multiple functions and doing it on the public network

That stands for two channels of digital information travelling system to greater advantage.

The thinking is that, with the at 64,000 bits per second (about telephone lines already in place, they can be used for more than just taiking.

The telephone switchboards of yesteryear, run manually by operators who plugged callers into each other's lines, gave way to local exchanges (called cantral office switches in the US) that route calls automatically in

Comparisons in system sizes

work). Eventually, higher vol-ume rates would accommodate transmission over trunk lines.

1000

But many companies require higher transmission over trunk lines. But many companies require higher transmission rates now. Rental of 2m-bit-per second lines (over 30 channels of 84,000 bits), for instance, is not uncommon. ISDN proponents contend that companies will use both the private, "leased-line" services and ISDN on the public network when it is available. In theory, ISDN should be

In theory, ISDN should be available to everyone, eventual-ly, on the public network. In reality, only business customers have shown any willingness to pay for such services. In the UK, British Telecom charges a £500 to £560 connection fee, and sub-sequent annual rental of over £500 depending on services used, according to Mr Colin Ram, a marketing officer for BT's ISDN service, called Inte-grated Digital Access. In addi-

tion, there are regular line usage charges.

BT's present service includes just one 64,000 bit line, plus signalling, but it will conform to the international format by the middle of part rece. middle of next year, says Mr

Tariffs will vary. In Europe, for instance, state-run telephone operating companies could charge subsidised rates to get demand rolling But it is still unclear whether there will ever be a home market

ever be a home market.

"Digital switching technology is being installed increasingly, but residents are not prepared to pay for the services it makes possible," says Mr Copping of PA Consulting. "They just mainly want phones that work, and when they don't work, to get fast repairs." The industry is aware of the lack of interest. At confer-

96.7

80.2

68.5

58.0

91.3

ences, people may be heard muttering that ISDN means innovations subscribers don't

Still, it is clear that the tech-nology push which has characterised ISDN from its inception has now swung around to a market pull from the business sec-tor. The US research company Dataquest of San Jose, Califor-nia, predicted earlier this year that sales of ISDN-related telecommunications equipment and services would reach \$370m next year and \$5.2bn by 1991.

next year and \$5.2bn by 1991.

Reluctant to predict dollar values, Mr Sean White, president of Northern Business Information, nevertheless also projects major growth in the number of subscriber lines that can access ISDN. From 19,000 lines worldwide (mostly experimental and most in Janan) last mental and most in Japan) last year, he forecasts that 4.2m lines will be operation in the US, Europe, Japan and else-where by 1991.

where by 1991
"The demand is coming from a broad range of businesses, from the Fortune 500 down to small companies," he says. "There is pent-up demand for this."
Within the last year the US has boosted the technology by resolving a standards hurdle and setting equipment design rules for a particular part of the system not yet covered by system not yet covered by CCITT standards.

CCITT standards.

The response among equipment makers has resulted in 'a defacto standard set by industry that is now spreading all overthe world,' according to Mr Curt Bergstrom, product marketing engineer for ISDN products at Intel Semiconductor in Munich.

Mr Bergstrom recalls a vast array of ISDN equipment on display at a March industry conference in Phoenix. The impression of a US lead in the technology was unavoidable, he says. To

ogy was unavoidable, he says. "It was a large exhibition and there were ISDN field trials

According to Mr White of Northern Business, demand for Northern Business, demand for ISDN services among business customers is outstripping the ability of the Bell companies and their equipment suppliers to meet it. They are still stuck, he says, over such matters as the numbering system for ISDN (as the number of lines increases with usage, the US could run out of area codes, he says) and what to charge for the service.

"It is simple problems like these that are holding it up," says Mr White. "But some feel these things won't be resolved until the early 1990s. That would slow ISDN down."

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that's special that's aerospatiale



Mr Denis Thatcher keeps both hands on the wheel while making a phone call to his wife is Downing Street, using the voice-controlled British Telecom Topaz carphone. Topaz is the first oblie telephone to comply with the Highway Code ruling that hand-held telephones must not

New telephone facilities

No clicks or buzzes

IT IS axiomatic that the tele-phone is the most popular means of keeping in touch among the residential and business communities. And yet, for all its popularity and longevity-the invention is over 100 years old - it is only in the past 10 to 15 years that the telephone has undergone any significant change. Before then, the telephone had remained largely unchanged in appearance and facilities.

However in the 1970s, thanks to the ubiquitous microchip, the for the uniquitous microcine, the first push button telephones appeared. Since then, as well as becoming more decorative, the humble telephone has become endowed with such festures as last number redial, number store memory and hands free dialling

There has also been a trend towards a new method of dialing which takes advantage of the new electronic telephone exchanges which are gradually replacing the ageing electromechanical exchanges. The "old" system of dialling, called loop disconnect, uses electronic pulses which represent the digital of a telephone number. These are transmitted to the ex-

and routes the call to the remote subscriber.
Loop disconnect makes for a

slow call "set-up" and, when all the trunk and local telephone the trunk and local telephone exchanges have been replaced with the modern electronic units, will be superseded by multifrequency dialling. This method uses a number of predetermined tones which the electronic exchanges can detect and forward at a much faster rate and without having to wait and count the incoming pulses to set count the incoming poises to set up the call. In this way as a number is dialled, the call is connected immediately without having to weit for the clicks and

having to wait for the clicks and buzzes of the old system.

These new telephones also enable the consumer to use the facilities offered by today's modern exchanges such as call forwarding, call transfer and ring back when free.

But for all the telephone's new-found sophistication, the end-user appears somewhat unimpressed. According to UK telecommunications consultants Systems Dynamics, the consumer is more interested in his machine's reliability than in its extra facilities.

The most popular features, however, proved to be last num-ber redialling and number store memory, but hands free dialling, conference facilities and music on hold are least in demand, says Systems Dynam-

Applications for telephones have also widened. Cellular radio telephones for example have witnessed a dramatic growth in the past three to four years. At the end of May, over low cellular telephones were in operation worldwide of in operation world-wide of which 350,000 were in the five Nordic countries (which operate on a common standard), 763,000 in the US and about 180,000 in the UK.

The cellular telephone boom looks set to continue with the introduction of the Pan-European cellular system in the early 1990s when it is estimated that in Britain alone there will be over 800,000 users.

The market for cordless tele-phones is also predicted to ex-pand rapidly as the new digital standard telephones, coden-amed CT2, enter the market. At present cordless telephones are generally targeted at the do-

mestic user. However, the new telephones are expected to at-tack the business sector for, unlike their predecessors, they will be able to operate from more than one base station, of-fering the user greater mobility.

It is also envisaged that spe-cial public booths, called tele-points, will be set up where users can plug into the public telephone network using their own cordless set. According to a recent report from Logica, the the business market for cord-less telephones in the UK will expand from around 50,000 to-day to approximately 370,000 by 1991.

The new phones will be more expensive than today's phones, priced around £200 compared with £90 but they will also offer more features. Prices are likely to drop as sales volumes in-

At present the UK is in the forefront of the new technology for cordless telephones. British Telecom and the UK's STC recently signed a £6m development contract to develop the new telephones; Orbitel, the joint venture between the UK's Plessey and Racal, is also working on a similar project and Shaye Communications has recently signed an agreement worth £2.5m with Nokia-Mobira which gives the Finnish group a 25 per cent stake in the UK company which was set up to produce the second generation of cordless telephones. Other shareholders in this company include Timex Corporation, Fred Olsen and Sinciair Research.

In another report, Logica forecasts an increase in the Euforecasts an increase in the Eu-ropean business telephone mar-ket. Despite a modest growth in the installed base of the West-ern European business tele-phone market (only 3.5 per cent per annum) the value of the market will grow from \$641,000 in 1987 to \$1.34m in 1992.

This growth is seen as being largely due to three factors: a healthy replacement market (handsets are being replaced every 11-16 years and Logica ex-pects this figure to fall to 7-12 years by 1992); a wide range of technically innovative products

Most European countries are changing the status of their PITs from being monopoly sup-pliers of telephones to competphotos or teremones to compet-ing in an open market. The re-port notes that pressure for deregulation is also coming from suppliers who are keen to target Europe as a single homo-geneous market. This will allow them to effect economies of scale for larger production runs for the wide range of telephone types now expected by the user.

Jon Moggridge

Private exchanges

Facing the new challenge from Centrex

Trend towards digital exchanges

9,660

1,572

880,8

1990

one site to another, automatic feature upgrades, and the possi-bility of having multiple instai-lations across the country.

with an AT&T and Philips ex-change. The picture in conti-

Although Centrex has been in

CAGR

1986-1990

(19.8%)

Digital

CAGR

1986-1990

CAGR 1986-1990

3,802

4,753

LIKE MANY other areas of telecommunications, the advent of digital switching techniques has transformed the role of the private automatic branch exchange (PABX). Fuelled by the demand for fast and efficient data communications within and between companies, a new generation of digital PABXs has dramatically increased avail-able end-user features and brought the ability to integrate both voice and data traffic with-

in a single office site. Manufacturers of private exchanges argue, with some justi-fication, that the modern genre of digital PABX is the fulcrum of the electronic office. It represents the hub of every large business organisation because it provides terminals, in the form of the basic telephone set, for every key member of that

company.

Until recently, however, the evidence is that few of the sophisticated service and features now on offer have been utilised and that the use of integrated voice and data switching has been minimal. But several factors are emerging to change

this.
With the further digitisation of public networks the possibil-ities for communicating be-tween different PABX locations have been enhanced. Also, competition from the suppliers of local area networks, as well as the onset of new technologies such as Centrex, has encouraged PABK vendors to tout their warea more aggressively.

As dedicated computer systems, today's PABXs can furnish a range of telephone features including abbreviated dialling, call waiting, call queueing, forwarding, last number redial, interception and, to the chagrin of many callers, mu-rak-on-hold. With simple changes in the computer soft-ware, it is also possible to re-tain the same number when moving premises.

Because many of their cape-bilities are applicable to data communications, PABXs are recommunications, PABXs are re-ceiving growing acceptance for handling customer data. Specif-ically, they are being used as an economic and efficient way of linking terminals and comput-ers within the office. While there are at present-limitations

on the speed of data that can be handled over existing tele-phone wires, a voice and data PABX offers flexibility when it comes to routine file swapping or resource sharing for laser printers, plotters or modems. years adapted to meet the stan-dards of ISDN. Demand for these machines, known interna-tionally as integrated Services Private Branch Exchanges (ISPBXs), is likely to lead to a subrant growth market for an vibrant growth market for pri-vate exchanges over the next

Thousands of lines

8,901

4,872

4,029

1985

Source:Dataquest

Increasingly, the PABX can also offer an efficient means of communication with the outsid world. Work on international standards will soon allow com-munication between PABXs, munication between PABXs, both across private networks and through the public network. The UK has been at the forefront of developments in this areas and, with its indigenous DPNSS and DASS II signalling systems, currently has the most applications of the process of the proce sophisticated intra-PABX net-work in the world.

The PABX is also set to play a leading role in the next stage in the evolution of the world's the evolution of the world's telephone network. During the late 1980s, the separate networks used for the transmission of voice, data, text and image will be brought together by the telephone operating companies under the umbrella of the integrated services digital network (ISDN).

For most business users the

For most business users, the private exchange will provide the vital link between the sub-scriber premises and the public ISDN network. In this regard, a new breed of digital PABX has emerged within the last two nental Europe is less clear.
There, the technology is seen as
a by-product of liberalised markets and its uptake is likely to
remain slow (although such unlikely countries as Spain and Turkey have recently an-nounced implementation

plans).

It is arguable how big a long-term threat Centrex will pose to the installed PABX base. At the moment, the feature-rich PABX clearly has the upper hand, but digital Centrex comes at a time when most of the world's telephone operating companies are planning to modthe world's telephone operating companies are planning to modernise their networks. And while it remains a thorny regulatory problem for many of the traditional PTTs, it is likely to become an increasingly attractive option as Europe's terminal

equipment markets are opened up before 1992.

In the US, the regional Bell operating companies see ISDN as the resurrection of Centrex. To fend off competition from private networks, they are already offering sophisticated voice/data services via Centrex known as Central Office Local Area Networks (COLANS), and these can be expected as the next wave of innovation in Eu-

However, the advent of ISDN will also bring a new competitive threat to the private ex-The PARK may have a trump card to play, however, as in-tense research activity in the UK and US is now in progress, change in the shape of Centrex. Centrex (Central Exchange) is a facility whereby the normal functions of the PABX are offered direct to the customer from the local telephone company's main exchange. simed at developing a so-called cordless PABX. In operation, this radio-controlled exchange would form the switching hub for future wireless data networks both within and outside company sites. Among its advantages are the fact that the customer does not need to purchase or maintain his own PABX but simply pays a fixed rental fee for the service. There are also space savings to be had, ease of relocation from the site to another another the company sites.

The immediate market prospects for the private exchange will depend largely on the pace of liberalisation in Europe. Those countries which have in the past maintained a monopoly on PARX supply, including the Netherlands, Sweden and West Germany, are all now pledged to open their markets by the end of the decade. And with the UK and France relatively mature, the major opportunity will be in West Germany which has to date suffered from a low penetration of digital PABXs due to the strict terminal supply policy of the Deutsche Bundespost. Although Centrex has been in the US for over 20 years, it has only recently crossed the Atlantic on the tide of liberalisation. In the UK, Mercury Communications has installed a trial Centrex exchange on a Northern Telecom switch and BT is due to follow suit later this year with an AT&T and Philing ex-

Denis Olingon

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Satellite business services

The US leads the way

EVERY DAY in 500 bookmakcan watch one (and often two) live horse racing meetings, plus dog racing, as they place their bets.

By the end of January more than 3,000 bookmakers will take the service provided by Satel-lite Information Services and, so far, 9,000 of the countries es-timated 10,300 bookies have registered to install satellite receiving equipment on their

The consortium, in which the major bookmaking chains have significant stakes, can relay live pictures from any of the 59 race-courses whose owners belong to the Racecourse Association.

The effect of the service has been quite dramatic. There has been a high level of interest turnover for the bookies on both horse and dog racing," says Mr Nigel Payne, marketing director of SIS.

Not only do people like the live action but Mr Payne claims the service has so stimulated interest in the areas where it is available that attendances at racetracks have started to rise, rather than fall as many people

will probably not break even until its fourth year four because of the high cost of setting up the network and the £10m likely to be paid to the course owners over the next three years. But it is an important example of satellite technology being used by closed groups to stimulate their business. stimulate their busine

The use of satellite communi-cation is particularly relevant because SIS is delivering time sensitive pictures to premises scattered all over the UK.

No bets are placed at all when Ford UK, through British Tele-com, uses satellite communication for a daily video conferenc-

Researchers at Dunton in Essex, howver, go into their own studio and communicate directly with technical staff in Cologne.Cameras can pan across new designs and as a result many hours on aircraft are saved.

British Telecom is also starting trials for an innovative satellite radio-paging service which will allow employees to keep in touch with headquarters, however far they have to travel. The service will, for internet allow transport compastance allow transport compa-nies to contact lorry drivers on routes across Europe, the Mid-dle East and Africa and warn them of danger or send them ur-gently to a new destination.

The messages sent via an In-marsat satellite will be picked up by flat 5-inch square plates -mounted on the roof of a lorry and will come up on liquid crystal displays in the cab.

BT hopes the receiving equip-BT hopes the receiving equipment will cost less than £1,000. Horse racing, video-conferencing and the diversion of lorry drivers far from base in areas of poor communications are just three of the imaginative uses that communication satellites are being used for in addition to more obvious functions such as converse. carrying telephone conversa-tions across the Atlantic or delivering new channels of enter-

Use of satellites by broadcasters is now little more than a dai-

More than 20 television channels are now delivered by satel-lite all over Western Europe by telecommunications satellites, aimed mainly at cable televi-

So far all of them, even well-funded channels such as Mr Rupert Murdoch's Sky Channel;

Despite this, the supply of sat-ellite capacity for talevision is scheduled to increase dramati-cally over the next two years with the launch of-high power

direct broadcasting satellites in West Germany, France and the

If all goes well, by next Sep-tember the Lexembourg-based private sector satellite, Astra, will be transmitting 16 channels of television from Lisbon to Warsaw and all points in be-

Even occasional users of sat-ellite are catered for by Bright-Star, a joint venture between Visnews, the UK-based interna-tional television newsagency and Samuel Broadcasting of the U.S. The company offers a permanent satellite link across the Atlantic for delivering pictures with news and sport making up about three quarters of the traf-

Away from the growing use satellites as a method of alle-viating the shortage of broad-casting spectrum faced by land-based transmitters per-haps the largest potential growth area for satellites for communications particularly within large multi-national cor-poration with far-flung offices.

Unlike the U.S., the whole area of independent business services using satellites is still in its infancy in Europe.

in Europe, such business services come under the various post and telecommunications administrations (PTTs) using satellites operated by the international satellite monopolies intelsat and Eutelsat. Both Eutelsat and Intelsat are

Both Eutelsat and Intelsat are coming under pressure from potential competitors. In Europe, Astra will compete with Eutelsat for the provision of television services. And in the U.S.the Federal Communicationms Commission has just given approval for a recently formed company Pan American Satellite to launch what is described as the first private inscribed as the first private in-ternational communications

In the U.S., according to Com-munications - & Information

Technology (CIT), the communications research consultants, independent operators such as have already created a wide customer base. By the end of last year the company was serv-ing a "network" of 36,000 one-way receiving dishes in the business sector and 6,000 inter-

active tw-way dishes.
With revenue forecasts of \$60m, Equatorial expects to be serving 20,000 two-way stations

by the end of next year.

The rapid projected build-up in two-way service by Equatorial and the 10 or so U.S. cariers is in stark contrast to Europe where no PTT yet allows the opwhere no fill yet allows the operation of two-way services
(and, in some cases, theoretically disallows one way," says Mr
Patrick Whitten, managing director of CIT research.

Two way V-Sat (very small aperture terminals) offer business
benefits to a wide rampse of

benefits to a wide ramnge of companies - everything from motor vehicle dealerships and

banks to insurance and time-sharing companies. Growth of more than 40 per cent a year for five years is fore-cast for V-Sat equipment in the U.S. with so far only 3 per cent
of data network owning networks using satellites, compared with 14 per cent who use private microwave links and 85 per cent using leased land

easting by satellite (DBS) will increase the available capacity for data transfer. Each of the three channels on British Satel-lite Broadcasting's television satellite will also be capable of transmitting data at the rate of

20 megabits a second.
According to CIT, however consumer services such as tele-shopping, tele-banking and tele-betting viz satellite must be regarded as a market for the next century, rather than this.

New Satellite Communications in Europe. 1987; CIT Research, 1

Harmood Place, London, W.1.

Raymond Snoddy



Cable technology

Fibre optics in vogue

LAST SUMMER, one of the fleet tage, with the result that some of cable-laying ships owned bu analysts feel there may soon be Cable and Wireless, the UK overcapacity in the American telecommunications group, set syste out on an historic voyage between the Middle East and the phonwest coast of India. The boat pose West coast of India. The boat was laying a new line across a busy and expanding route; but more than that, it was putting down which is likely to be the last submarine coaxial cable in the world.

The demise of the cabling technology which has dominated the undersea telephone business for the last 30 years is being brought about by the development of submarine fibre optic cables.

optic cables.

The first of these lines went into service only last year between the UK and Belgium. But with the technology now well-tested, fibre optic cabling is set for a period of rapid expansion. in the next few years, with new lines across both the Atlantic and Pacific. The first trans-At-lantic cable should be operat-

ing within a year.
The shift to submarine fibre The shift to submarine fibre optics follows a re-cabling drive which is already well underway on land. At sea, greater reliability is essential because of the difficulty, of replacing equipment, particularly the repeater units which amplify signals that habitually lose power as they travel along the cable.

On land, however, these more stringent conditions do not ap-

steadily gathering pace since the initial rial runs in 1977. Atthough the big technologi-cal breakthroughs that made this possible are claimed for the UK, in the laboratories of the STC group, the most aggres-sive re-cabling programme has gone ahead in the US.

gone ahead in the US.

Deregulation in the American telephone system has been a big factor behind this rapid development. Long-distance competitors to American Telephone and Telegraph have invested heavily in fibre optics in the attempt to expand their toe-hold on the market for high-speed data traffic for husiness. AT&T itself has equally been splashing out on optical fibre to maintain its competitive advan-

In Europe, the large tele-phone groups have not been ex-posed to the pressure from al-ternative carriers which was being felt by AT&T as early as the 1960s in the US. Nor have they felt the same demand from industry for better

cables.

a first of these lines went service only last year hent the UK and Belgium. But the technology now well-differed of rapid expansion e next few years, with new is across both the Atlantic Pacific. The first trans-Affic cable should be operative as shift to submarine fibre is follows a re-cabling drived his already well underway and At sea, greater reliabilises essential because of the culty of replacing equipals that the UK and samplify signals that the land, however, these more agent conditions do not apand cabling has been and cabling has been as follows:

auch as General Motors, International Susiness Machines or the actional Rusiness Machines or the the UK and opposition within the DGT, France's tale to communications authority the make in Endough in European and cabling is set to UK and vest operators gaining access to the new lines.

As a result, it is estimated that France's spending on fibre and the Western European cabling some has come from the Western European that France's spending on fibre that France's spending on fibre that France's spending on fibre and the within the Ec and the drive to improve the drive to improve the drive to improve the drive to improve the drive to increase the possibility

shared as follows:

In the UK, the leader in Western European implementa-Western European implementa-tion of optical fibre, spending on cabling and its associated transmitter and receiver equip-ment, will have built up to about \$370m by the end of this year. As the pace quickens over the balance of this decade, it will rise to a little over \$1bz by 1991.

1991. This relatively faster takeoff in the UK is partly attributed to the launch of Mercury, the only yet licenced in one of the main European countries, and a company which has immediately begun to build its own telephone system with optical fibre cables. BT has itself been trying to

1822 = 5

rection recently, abandoning a futuristic plan to recable the country at the local level to allow a much expanded variety of services to be carried into the

they felt the same demand from industry for better long-distance data communications, largely because European industry is still mainly organised on national rather than continental lines.

The existence of big, broadly-based American companies such as General Motors, International Business Machines or the aerospace groups, meant a

Beyond that, growth in Germany may be determined by the future of its ambitious plans for developing an integrated systems data network (ISDN). This technique for mixing data and visual messages on the same lines is likely to de-mand and acceleration of spending on fibre optic cables

Longer-term demand for fibre

increase its appeal to large corporate customers by modernising its trunk network and City installations.

• France's policy has been less clear cut, largely because the Government has changed direction recently, abandoning a through the same switching mechanism, some countries are baulking at the cost; and there are also big questions of whether the Community will need the large amounts of telecommunications capacity flowing from the system.

the system.

Business, on the other hand, is welcoming the growth of fibre optic networks. The cables meet corporate requirements for increasing amounts of data traffic, and tend to be more reliable than traditional coaxial cabling or satellite communications. or satellite communications.
There is less interference with the signals on fibre optic ca-bles, a key issue in data traffic, which is more sensitive to dis-tortion than voice communica-

Hence the current round of interest in submarine cabling. With industry and commerce advancing pell-mell into a world where competition knows no boundaries, and where com-panies look routinely to a world panies look routinely to a world market, international communications of all kinds are expected to increase by leaps and bounds. This is the driving force behind the plans for two new fibre optic cables across both the Atlantic and the Pacific, one of which in both cases will be held by private international network operators.

work operators.
Cable and Wireless of the UK is at the centre of this private... network, with a vision of coa-structing a system which stretches from the UK - the place than in France - with the bridgehead into Europe - across result that its spending is expected to increase to about US, and then onto Tokyo in Japan.

A significant part of this scheme has now been put into place with the group's estab-lishment of Mercury in the UK, and its acceptance in Japan as part of a consortium to develop a new international carrier

its cabling plans are also mov-ing forward, and it has estab-lished a coast-to-coast newtork in the US. When the system gets up and running it will be the first international operation of its kind to challenge the estab

Terry Dodsworth



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WORLD TELECOMMUNICATIONS 30

Cellular telephone services

A highly-priced business

CYNICS MIGHT say that the cellular telephone industy has come of age this year by notching up its first trade dispute.

The European Commission launched an anti-dumping investigation this summer against a clutch of Japanese manufac-turers, including NEC. Panasonic. Mitsubishi, Japan Radio (JRC) and Kokusai Electrics, as well as against Novatel of Cana-

The case was instigated by Motorola of the US, one of the world's leaders in cellular equipment, which claimed that dumping had hit the output of its new cellular handset factory

The Japanese producers re-acted strongly, arguing that Motorola was comparing prices for equipment used on the different cellular system in operation in Japan with equipment used in Britain. They also claimed that, far from struggling, Moto-rola had been increasing its share of the UK cellular equip-

The dispute is an unusual one: although being channelled through the European Commis-sion, most countries in the EC are not involved; there is no European-based complainant; and, rarely, a Canadian company is being cited in an EC anti-

Yet the case also demonstrated to the outside world that neers in Europe, still have by cellular had become very big far the highest penetration lev-business. Barely in existence a els-more than 10 per 1,000 pop-

Country

Norway

France

UK

decade ago, it is now developing apace in most of the key indus-trialised markets:

The US will have more than million cellular subscribers by the end of the year and 2.2m the latest forecasts from Her-schel Shosteck Associates, a specialist market research con-sultancy. Even though the first licence was issued only in 1984, most of the 90 biggest cities now have at least one cellular sys-

@in Japan cellular is on the up. Last year there were 90,000 cellular carphones, up 50 per cent on 1985, and this year the umber of users continues to grow very rapidly.

●Europe too is booming, with more than 500,000 users already. This could grow by about 30 per cent a year for the rest of the decade, on one forecast. However, the countries of Europe are in different stages of development when it comes to

The UK, which established Ceilnet and Vodafone as two competing networks in 1985, has shown the most spectacular recent growth. With over 200,000 subscribers now and no sign of a slackening of demand, the two networks are confidently plan-ning for more than 500,000 customers by the end of the decade Scandinavia, the cellular pio-

207,000

155,050

70.540

63,930

36,900

23,500

25,520

18,620

9,100

4,430

2,920

2,350

729,500

they are looking to expand France's mobile communica-European Cellular Market lar network. 18.45 13.57

13,32

0.60

3.09

0.46

1.28

0.16

18.46

0.08

0.67

0.38

2.29

The network will allow subscribers to use their cellular phones when they take them across boundaries for the first time. Its supporters argue it will also create a bugeunified equipment market in Europe, matching the economies of scale available in the US and

en, Siemens of West Germany, Alcatel of France, and Plessey and Racal of the UK are think-ing hard about the opportuni-



The Opal: a compact phone from the BT Diamond range of

ulation. Low population density and their affluence have boosted the appeal of cellular to the Scandinavian people.
Other European countries bave been slower to realise the potential, though there are signs of a change of direction. Usage has expanded smoothly in West Germany since the Bun-despost introduced the first fully cellular service there last year. The French authorities have recently announced that

tions by setting up a new cellu-But perhaps the most notable success which cellular has notched up is to persuade Eu-rope to sink the difficulties which notoriously bedevil tech-nological collaboration on the Continent in one of the most ambitious telecommunications projects ever attempted; the construction from acratch of a pan-European digital cellular

Japanese home markets.

Leading manufacturers such as Motorola, Ericsson of Swed-

It could also give the Europeans a technological lead over the Americans and Japanese ough some American experts doubt whether the US will need to make the jump from analogue to digital networks as ouickly as the Europeans.

The project took a big ster forward last month when 13 European countries, including all the largest, signed a detailed memorandum of understanding in Copenhagen setting out the stages needed to implement it. The memorandum sets out

"milestones" concerning pro-curement, development and testing of the networks, the opening and expansion of the service. The aim is to have all capitals and the principal air-port of each signatory country covered by 1993, followed by the transport routes between capitals by 1995.

Meanwhile, there are signs that the use of cellular is deepening as well as spreading. Net-work operators are paying more attention to value added services, such as messaging facili-ties if the subscriber is not able to answer the phone. Besides expanding the market, they also

have higher margins.
Sending data over cellular could also be another area of growth, though some observers believe this will always be of interest only to specific groups of celiular users, such as saleamer who spend a lot of time on the road. Facsimile, database searches, telex and electronic mail are among the facilities that can now be accessed in

All this is creating a huge equipment market. In the US alone, sales could be worth \$5bn by the end of the decade, according to one estimate. Another projection suggests that spending on equipment and services will be about \$4bn hy 1990, double the 1995 Serve.

double the 1986 figure.
Perhaps the only cloud on the horizon is if other forms of mobile communications emerge to knock cellular off its perch though those poised for rapid expansion - such as paging and private mobile radio complementary, rather than a

The main unanswered ques tion remains: when will the price of cellular equipment and services - now at a level that restricts cellular almost entirely to business use - come down sufficiently to create a truly mass, residential-based market? David Thomas

Cellular subscribers as at September 1987 Norway iceland Sweden Denmark Finland Austria Netherlands Ireland W.Germany France Luxembourg Haly 5 10 15 Units per 1,000 population

Source: European Mobile Communications Report



This car telephone from Racal-Vodac has an optional hands-fre

Accelerating convergence with information technology

Reliability a key issue

increases and its tempo rises, it is vital for management to be able to access information held in computers in different parts of the organisation which may be geographically widely seps-rated.

Consequently, to meet these needs, information technology is rapidly becoming a strategic resource rather than just an overhead. Not only must it be possible to rely on this informa-tion - one must be able to rely

on it being available. When picking up the telephone, one's expectations are that it will work and, if for any reason it does not the normal reaction is anger. On the other

hand, computer faults tend to be greeted with resignation. The essential difference is that we all take the telephone network for granted and assume that it will always be there- and will continue to work 24 hours a will continue to work 24 hours a day, 365 days in the year. But we all recognise that computers are fallible: they have to be maintained, changed and updated and so are not available at all times.

As is often the case, the strength of a chain is that of its weakest link Consequently where computers are joined by telecommunications links, these links are frequently du-plicated to insure against failure or breakdown in the net-

In addition, the public tele-communication authorities,

A central control centre moni-A central control centre moni-tors the quality and flow of traf-fic within the network, rather like the police monitors road traffic via closed circuit TV, and in the event of a breakd

or overload, re-routes the traffic appropriately.

Where existing connections into the network are used i.e. between the subscriber and the local exchange, the result is not always satisfactory. The prob-lem is that, while the telephone exchanges and the main trans-

exchanges and the main trans-mission trunks are rapidly be-ing modernised with the latest digital technology and System X exchanges, the connections into subscribers' premises are often the copper wires that were in-stalled when the buildings were

erected some 10, 20 or even more years ago. It is this path - between the exchange and the subscriber that is the most vulnerable. Consequently, normal practice consequency, normal practice is to instal special, duplicated, connections into the public network. That is an effective solution where there is a large amount of traffic or it is particularly vital, even though it may not be feasible for the site which previous sales.

which requires only an occasional data connection. In general, therefore, it is now possible to achieve a high degree of reliability in the telecommunications connections

such as British Telecom and linking a network of sites and a Mercury in the UK, are able to central computer, thus allowing provide the user with managed the management to access data communication facilities. held in remote computers. In order to take advantage of

this, the connected computers must have up-to-date information, and be available on-line when needed without being out of action because of faults, up-dates or any other reason. Unfortunately, most normal com-puter systems "go down" at intervals for a variety of rea-sons. However, these failures are virtually eliminated in vital areas where high reliability is required, where safety is in-volved or, for example, in on-line credit card validation

Built-in redundancy (i.e. criti-cal portions of the equipment duplicated and cross-connect-ed) ensures that, in the event of any failure, the overall system continues to work, even if at a mewhat lower capacity.

Tandem and Stratus are two of the companies which have been fulfilling the specialist needs for fault-tolerant (or non-stop) computer systems in those critical situations where users could not be assured that conventional mainframe machine would meet their needs.

This requirement is increasrais requirement is increas-ingly important in the commer-cial world. With integrated com-puting systems in stores-handling sll aspects of trading from cash handling to stock con-trol and reordering via direct communication links back to a central computer, there is in-creasing vulnerability to com-puter system failure.

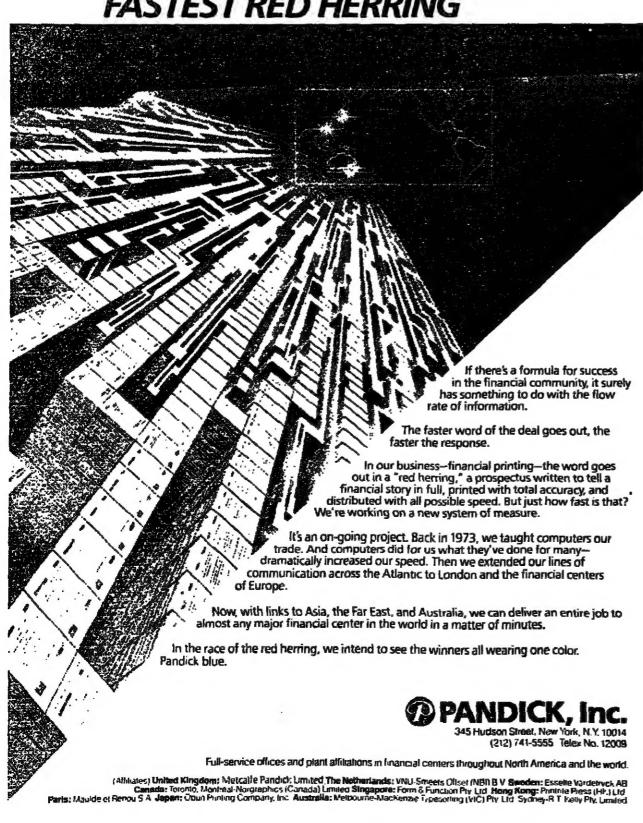
Recently, NCR introduced its Series 9800 Release 2 fault tol-erant machines. These provide users of some of the current NCR V8000 range of main-frames with a migration path for existing application pro-grams to a fault-tolerant environment. They employ a modu-lar multiple processor-based incremental architecture which offers the flexibility to expand the system by adding low-cost 'slices' of computer power.

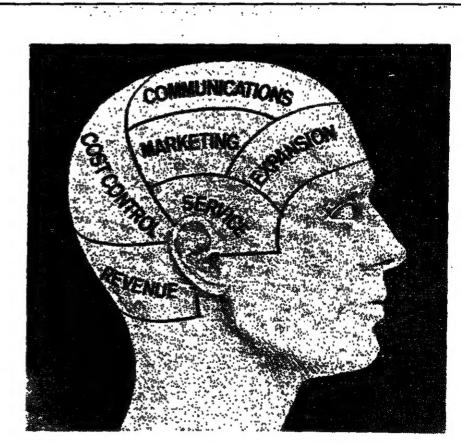
This provides broad options for increasing application pro-cessing and data handling capacities; data communications flexibility; as well as adding fault-tolerant capabilities. This ability to take existing applications and transfer them to an expandable system which can also be upgraded for fault-toler-ance will provide a very attractive option for many current and prospective NCR users.

Other manufacturers can be expected to follow this ap-proach if it is demanded by the marketplace. While designing and building for fault-tolerance does not come cheap, users will be prepared to pay for it as information technology assumes increasing importance to busi-

Adrian Morant

THE QUEST FOR THE WORLD'S FASTEST RED HERRING





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MAKING TELEPHONES WORK HARDER FOR BUSINESS

nat 800 Telecom Corp © 1987

Cable television services

Modest advances

west of London will be able to have a telephone service that competes with British Telecom. The service will be offered by windsor Television, one of the UK's modern multi-channel cable television franchises. The scheme is only a pilot, although Windsor Television franchises. The scheme is only a pilot, although it will probably begin spreading to more of the 500 businesses in the area later next year. But it is an example of the growing and Mercury an Communications, the company set up with the encouragement of the British Government to initiate competition in the tele-communications market.

communications market.

Mr David Whitaker, managing director of Windsor Television, says he will be able to offer business customers calls that are 5-15 per cent cheaper, very clear lines and itemised billing. What he will not, however, be able to offer, at least at the out-set, is two-way communication. There has been a dispute be-tween BT and Mercury about been disappointing, the debate who should pay for extra capac-ity which BT says it will have to communication services, teleinstal to cope with incoming Mercury calls. Mercury can only offer a full national and inter-

have to pay for. "I think that cable television itself without telephony is an interesting investment and it al-ways has been," says Mr Whitaker. But with telephony on top, he believes that cable will be-

come an extremely attractive investment Yet more than five years after Mr Kenneth Baker, then Minis-ter for Information Technology, launched cable television as a

Apart from Windsor, and an as £10bn.

By would probably only conflats in Camden, north Lendon, sider such a venture if it had the only other cable company with advanced plans to offer telephony is East London Telecommunications, the cable frammunications, the cable frammunications regulatory body chise covering the rapidly because of fears that BT's hold are the market regulatory with the further cable for the cable for the cable from the cable from the cable for the cable

Docklands.

Mr Roger Marshall, managing director of ELT, is in the final and West German governments stages of placing orders for have invested heavily in cable equipment, has already had discussions with a number of local progress in the introduction of

WITHIN THE next couple of companies and hopes to launch new telephony services has still months, 30 companies on the a commercial service in the been slow.

Slough trading estate to the first quarter of next year.

According to a new report,

says Mr Marshall.

Earlier this year Mr Gordon Owen, managing director of Mercury, addressed cable operators and emphasised he was interested in reaching agreements with them. Such deals would enable Mercury to offer local telecommunications services in areas where the main Mercury trunk lines are other-Mercury trunk lines are other-wise unlikely to reach in the foreseeable future.

phony as well as pictures, was considerably stimulated by last year's Peacock Committee into the future of broadcasting in

national and interpretable of the following calls only service because that is the bit subscribers and the committee into the future of broadcasting in the UK.

One of the recommendations of the committee envisaged national telecommunications or cause that is the bit subscribers ganisations such as ET and Merters to the committee of the committee envisaged national telecommunications or cause that is the bit subscribers and the committee of the cury being allowed to act as cury being allowed to act as common carriers for both voice and television programmes over a national optical fibre grid.

Sir George Jefferson, then chairman of BT, in evidence to the Peacock Committee said that if BT were allowed to carry additional services, particularly cable television, it believed it would be economic to start replacing copper wire with high capacity optical fibre by the beginning of the 1990s.

The Government is keen on

strategy for using entertainment to pay for the electronic wired cities of the future, the talecommunications achievements of cable have been modest, to say the least.

Apart from Windsor, and an as filobn.

chise covering the rapidly because of fears that BT's hold developing area of the London on the market would be further

there is little sign of interactive, two-way broadband communi-cation based on hitherto unknown services.
In France by the middle of

this year firm orders had been placed for 500,000 fibre subscriber connections - more than in the rest of the world put to-

being used purely for entertainment TV distribution. The only exception is the Biarritz project, where 1,500 residential sub-scribers have access to video telephony," the report points out.
The French PPT, however, clearly intends to use the French cable network for tele-

the capacity to do it.

In Germany there are now claimed to be more than 2m cable television subscribers with the number expected to grow at the rate of more than 1m a year. The cable networks are based on coaxial copper cable but there are plans to integrate them with a national broadband

network and with it the possi-bility of new telecommunication services.

In the US, despite the fact that around 40m households subscribe to cable television, the industry shows little sign of developing sophisticated telecommunication services.

Television, a cable company with more than 200,000 sub-scribers and one of the biggest concentrations of businesses in the world in its franchise area, data has not become a major part of its business.

According to the Ovum study, only 100 New York buildings have been wired by Manhattan Cable for data communications services and There is no active marketing for data communications at present."

The report concludes that at least in the US cable television

cease in the US cannot the saled operators are less likely than telephone companies to be the future providers of integrated broadband communications. Broadband Communica-

tions:the Commercial Impact. Ovum,7 Rathbone Street, London WIP IAF Price £320.



nication services in the heart of the City of Loadon, Britain is keen on the concept of a national fibre optic grid, though it could cost as much as £10bn. Below: a BT



Case study: satellite communications in business

A worldwide link-up

LAST MONTH, Digital Equipment Corporation (DEC), the world's second largest computer manufacturer after IBM, staged its DECworld exhibition lines, with digital data from computers, terminals and factorized to analogue signals via modems.

Several satellite links were established for the event, to broadcast technical seminar sessions to distant locations in the US, to communicate with its Puerto Rico manufacturing plant, and to demonstrate a su-percomputer located at Cray Research, DEC's business partner in Minneapolis. Exhibitions aside, satellite

communications have become an integral part of DEC's business telecommunications net-work The company leases satellite channels from a number of

We use satellite communicawe use satering communica-tions at several locations, says Mr Joseph Megna, manager of corporate telecommunications at DEC.

We currently carry data and voice communications, but we also use video extensively in Canada and the US on what we call our Digital Video Network, to broadcast new product re-leases to our sales force at 52 sales and educational locations, and at some of our manufactur-

We have also used it for spe-cial programmes, for example to our sales forces in Australia and New Zealand. We are currently in the process of install-ing a satellite voice, data and video link to Puerto Rico and we lease satellite links up to the Far East.

We are now experimenting with Very Small Aperture Terminals (VSAT), satellite autenbae with small dishes, to interconnect our Ethernet local area networks on the East and West Coast, to make it look logically like a single local area net-

work."
Multinational companies typically have huge telephone bills for internal voice communications. In the past, they had no choice but to pay up and smile, usually to a number of different beautiful. PTTs. Apart from the cost, these services were not always able to keep up with new developments in computer technology and of-

Up until 10 to 15 years ago, the public switched telephone network (PSTN) was the only pub-licly available voice telecomlicly available voice telecom-munications service available from the PTTs. Even today, the majority of data communica-tions between different build-ings within companies takes place over analogue telephone

computers, terminals and fac-simile equipment having to be converted to analogue signals the local telephone exchange.

Whatever the telecommunications network the company in-stalls, it has to operate within each country's telecommunications regulatory environment, regardless of whether this de-mands a higher cost and/or a diminution in the capabilities of that network.

With progressive deregulation, some countries are dis-mantling telecommunications barriers faster than the rest, particularly in the UK and the US.

We have competent staff at our European headquarters in Geneva, and telecommunica-Geneva, and telecommunications managers within each country, so we seldom have to deal directly with the PTTs from this end, adds Mr Megna.

Over the years, DEC's US and European operations developed separate telephone networks, based on traditional analogue leased lines from the PTTs to connect their locations together. These were called Digital (as in the company) Telephone Networks or DTNs.

The two DTNs were in turn

The two DTNs were in turn linked by a transatlantic leased line. This allowed anybody within DEC Europe to dial a seven-digit code and to make contact with people at any other DEC location in Europe or the

Each location has a three-digit location number, followed by a four-digit extension number. Even for the smaller locations which are not connected by leased lines, the PARX switch-board converts the seven-digit code to the full number which has to be dialled on the PSTN.

The hub of the European DTN is based in the UK at DEC's Reading plant. As traffic volumes continued to increase between the US and Europe, the company decided about two years ago to look into the feasibility of connecting the two DTNs into one network using a establish link

satellite link.

This entailed monitoring and recording traffic volumes over a six-month period. The feasibility study showed a potential saving of about \$1m.

DEC's new satellite-linked network has been operational since the beginning of the year, and there have been benefits other than savings too. For example, the US could not use seven-digit dialling because they previously worked on a Centrex switch, provided by AT&T. This

The decision to investigate a single worldwide private tele-phone network linked by satel-lite was precipitated in 1984 when DEC US switched over from Centrex and invested about \$12m in Northern Tele-com SLIGO PABXs, providing about 30,000 extensions in the New England area.

DEC's manufacturing plant in Ireland has its own satellite there, but the rest of Europe is serviced by a central hub.

The UK was the best place to site the hub because it has more advanced digital communications and because it has the lowest charges for international

calla.
The cost of voice communications for most companies is higher than that for data, if only because one tends to speak lon-ger over the telephone. By con-trast, one can transmit enormous amounts of data over a 56

Furthermore, in terms of utilisation, data can be transmitted 24 hours around the clock whereas voice is used mainly during office hours, and typically within a time window of about five hours for communi-cations between the US and Eu-

Tope.

Looking ahead five or ten years to define what our bandwidth requirements are going to be, we intend to use a mix of both satellite and transatiantic fibre optics cable, continues

Mr Megna.
This will make the network more robust. There are few problems as far as data is concerned, but occasionally voice quality suffers over satellite circuits, although the echo suppression techniques are now a lot better than they were five years ago.

Some companies have had bad experiences with some of the older technology, so our goal is to ensure that we do not have anyone talk on a voice link of more than one satellite hop.

We use two satellites for con-necting our US and European Digital Telephone Networks, but we still have diversity routing going over traditional cable as a fallback.

I do not see fibre optics cable replacing satellites circuits.
There will always be a place for

CASE HISTORIES OF OPPORTUNITIES FOR TOMORROW. PHILIPS

APT DIGITIZES THE DUTCH TELEPHONE NETWORK.

Telecommunications technology is changing more rapidly than ever before in The Netherlands, the Dutch PTT is responding to this challenge by investing heavily in the future.

They commissioned AT&T and Philips Telecommunications (APT) to supply a number of digital systems to handle the greater part of the expanding volume of traffic between regional centres.

APT is also main supplier of subscriber exchanges to extend and replace existing telephone exchanges and advanced optical transmission systems for the entire network. When completed, this project will enable new telecommunication services to be brought onto the market.

APT's digitization of the Dutch telephone system is just one of our current projects.

We are also currently active in providing Saudi Arabia with one of

the world's most advanced national telecommunications systems. In the UK we are installing an Advanced Freephone network providing toil-free calling APT is also upgrading the strategic transmission links for the entire Indian subcontinent and supplying various optical projects in China. These are just a few examples of our current major projects.

APT is one of the very few companies in the world with the capacity, creativity and resources to handle such projects on a turnkey basis both now and well into the 21st Century

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Radiopaging

A worldwide upbeat assessment

IT IS a measure of the revolu-tion that has overtaken the tele-communications industry that radiopaging has suddenly be-gun to attract a new wave of at-tention for the launch of a new paging system using the Teledif-fusion de France broadcasting network. The signals go over the tention from manufacturers and consumers alike. From being a steady growth sector, it is now being propelled forward by new services, new products and new schemes for international de-

Underpinning this expansion is a large untapped pool of demand that is becoming more mand that is becoming more open to exploitation as prices fall and quality improves. At the same time, pagers are becoming smaller and much more flexible to use, able to deliver not only a warning beep but messages that can be spelled out on a small screen. These are all factors which make it easier to justify investment in the serto justify investment in the ser-

rice.
The potential for growth in the market is suggested by the experience of the US, which has gone much further and much faster in the use of pagers than other countries

According to figures produced by BIS Mackintosh, the market research group, the US had about 6.5m pager users at the end of last year, the equiva-lent of 5.7 per cent of the country's working population. At the same date, Japan had 2.15m users, or 3.6 per cent of its working population, whereas the UK had 435,000 units in service, a penetration level of L9 per cent among active workers. Penetra-tion figures in France and West Germany were below 1 per cent.

Germany were below 1 per cent.

The industry's upbeat assessment of its ability to grow is based on a number of initiatives for new or improved services virtually everywhere in the developed world.

In France, for example, the country will shortly move from having just one radiopaging service to three. Since the mid-1970s, the standard French system has been Eurosignal, a service will service the system of the system of the system has been Eurosignal, a service to the system of th tem has been Eurosignal, a service shared with West Germany and Switzerland. Despite this three-nation facility. Eurosig-nal is widely regarded as tech-nologically outdated because the receivers do nothing more than deliver bleep signals - they have no message display facili-

broadcasting frequencies, a technology which gives them automatic national coverage.

An alternative new service. called Radio-Messagerie, is also being launched in France. This will be capable of the full range of uses, including lengthy mes-sages, and it will be possible to plug the receivers into the French Minitel home videotext system to scroll out detailed

West Germany, which is also reliant at present on the Euro-signal system, is introducing a new service next year. This will be based on similar technical standards to the French Radio-

standards to the French RadioMessagerie, with the implication that the two may eventually
be linked up like the existing
Eurosignal network.

In the UK, there is a particularly lively spate of activity as
two new services backed by substantial companies swing into
action in direct competition to
British Telecom. Up until now,

messages on a conventionalbt Mobile Communications has had the field to itself as a nationwide paging operator, although there are several significant companies operating wide-area paging at a regional level. But both Mercury, which launched its system a few weeks ago, and Racal Vodafone, which went into operation with its network last week are siming to be work last week, are aiming to be national competitors from the

Analysts expect these launches to provide further stimulation to the British market, both through forcing down prices, and because of the extra promotional effort which will be poured into adventicing NS be poured into advertising BIS Mackintosh, for example, believes that the the number of pagers in use could leap from about 435,000 at the end of last year to 13m in 1991, pushing year to 1.3m in 1991, pushing penetration levels close to those currently enjoyed in the

The Metrocast company in the The Metrocast company in the say, a railway station, point the telephone at a transmission device, and be able to key into the designed to circumvent the different wavebands to send This weakness in the Eurosig-



eper from Inter-City Paging can

would use microchip technology to move rapidly up and down a frequency range to find the appropriate one for use in a particular area. British Telecom is now working on an international link with the US in this field through Metrocest.

field through Metrocast.

Apart from these immediate developments in the paging field, there are a number of oth-

messages on a conventional-style watch. It would contain an aerial in the strap, and a scroll-ing system for delivering mesing system for delivering messages; and as if to underline the international possibilities of the device, AT&E has gone to Plessey of the UK to design the chips to power the signals, and to a Swiss watch company to market the final product.

Another device which equally demonstrates the burst of innovation sweeping through the industry is a small cordless telephone which could be used in

phone which could be used in certain selected locations The idea in this case, devel-

oped in the UK, is to create a poor man's alternative to the mobile car phone, which is becoming small enough these days to be carried around outside the car as well. The cordless interment month he will be intermediated in strument would be smaller still, probably suitable for carrying in a pocket. Users would be able to go to a special site in, say, a railway station, point the telephone at a transmission device, and be able to ker into the

that calls could be billed to a

that calls could be billed to a home telephone number.

In the US, yet another approach to mobile communications is being planned by Hughes Aircraft, the Californian electronics group which is now part of General Motors. Hughes' technologists have develored a transmission and re-Hughes' technologists have developed a transmission and reception device which can be embedded, in the shape of a disc, in the roof of a car. or a train, or any other moving vehicle. It is technically feasible, they say, to transmit from this directly to a satellite and then down to earth again - a process which would circumvent the which would circumvent the elaborate cell system and small receivers and transmission systems used in the cellular mo-bile network.

bile network.

A similar, but more limited idea, is a satellite paging system being planned by British Telecom for keeping track of international lorry traffic. Companies would beam up instructions to the satellite, which would beam them down again to an actial on their lore. again to an aerial on their lor-ries. The signal would then be converted into a readable mes-sage on a small screen in the cab.

not, of course, see the light of day commercially, and some of the projects that are being launched may find it difficult to sustain the level of profits their backers are aiming to achieve. But the range of new services under development is compel-ling evidence that the world is entering a period when there will be much wider choice to customers - an era when users will be able to tailor their communications munications requirements much more closely to their

Value-added data networks

Even more messages in store

IT WAS not so long ago that the fastest growing areas for VAN telephone was being used in exactly the same way as when it was first conceived by Alexander James Bell 100 years ago to deliver voice messages over a metallic line from one individual intervals. It is some European countries, tionals - International Business however, is now steadily giving way to a wave of liberalising sidiary of General Electric, which has linked up with the wards and forwards between sion recommended a much supplier and customer companies. der James Bell 100 years agu- a supplier and customer compa-deliver voice messages over a supplier and customer compa-metallic line from one individu-metallic line from one individu-ies. At present, the most preva-lent use of the telephone system commercial computer 30 years for transferring data is in large ago, however, has changed this world out of all recognition. To-

The rise in the amount of this data traffic has created a new business of value added networks, or VANs. In different parts of the world there are varying definitions of what exactly constitutes a VAN. But broadly speaking, the authorities for regulatory purposes look upon them as services which use the telephone network to manipulate information. They lie at the centre of work to manipulate informa-tion. They lie at the centre of the convergence of telephone systems and data processing, the marriage of two electronic systems which is commonly re-garded as the base for a more information, intensive society in formation-intensive society in

Among the stimulants to this Among the stimulants to this development have been:

The need for real-time information, hooked up instantaneously through a telephone line. These systems have, for example, been a vial element in development a vial element in developing the airline and tour-ist trades into mass markets. Demands for interchange of financial information between

banks and other financial insti-

The recognition that, with the growth in the use of person-al computers, it is often more efficient to send messages over the data network than to telephone. Messages can be stored if the recipient is absent; the return message will similarly be received whether or not there is anyone there to answer the phone; and it is generally a heaper form of communica-

Message systems have mushroomed in large corporations in recent years - IBM, for example, has almost 250,000 people worldwide on its network - and some of these private systems are now being opened up to allow users to receive messages from outside. Today, electronic mail services, which route traffic between different subscribers in this way, are one of the

world out of all recognition. Today's telephone lines are buzzing with other kinds of communications, as data is poured
around the world in ever increasing quantities.

The rise in the amount of this

multinationals. But as the use of
electronic systems for creating
and storing data has grown, it
has become more and more obvious that these internal
systems ought to be linked up to
external ones as well. If a company is capable of processing its own data internally, why translate that into a convention-

paper of the future of telecommunications in June, and both munications in June, and both Germany and France have since proposed new measures to stimulate the market. To some extent, these will depend on the pricing of leased lines from the telephone monopolies, traditionally expensive in West Germany; but operators clearly believe that there will now be some that the UK and internationally.

INS, 60 per cent owned by ICL, is reckoned to be the UK market leader in the electronic data interchange area, where it claims to be adding about 30 new companies a week to its subscribers. Its services al.

Message systems have mushroomed in large corporations in recent years and some are now being opened up to outside users

be carried out on a screen using the same format, rather than be-ing committed to paper. Advocates claim that this approach speeds up the order and delivery process, is more effi-cient and less expensive, and is likely to generate fewer errors because there is less transcription of data.

Some governments have alsome governments have also become strong advocates of value added services in the belief that they will help the corporate sector in general to become more competitive. This is particularly true of the US and the UK, where new VAN services have been encouraged, in contrast to the policy of protecting the telephone service monopoly in some other countries. Indeed, the telecommunications strategy of the US. Britain tions strategy of the US, Britain, and to a large degree of Japan as well, has been directed at re-ducing telecommunications costs as a means of raising the competitiveness of industry

The more protective attitude to VANs development adopted

al letter form for external communications?

The most popular use for processing intercompany data in there are about 300 different there are about 300 different vAN services at present, and estimates for the size of the market last year vary widely between 255m and £160m; growth forecasts are similarly vague, from around £300m in 1990 to £600m. Since smaller VANs operators do not have to seek a licence, the industry is becoming the same format, rather than being committed to paper.

Advocates claim that this ap-

ic mailing systems and electron-ic data interchange. Many of the services on offer are relatively local in nature, tailored to a national market. tailored to a national market. But a significant feature of the VANs business is that, like so many other electronics-based industries, it has enormous international scope. Indeed, even at this early stage in its development, international companies are emerging as major players. In the UK, for example, there are now a number of significant

in the UK, for example, there are now a number of significantly-sized home-grown companies, including an offshoot of Midland Bank which operates a range of viewdata services; Telecom Gold, the electronic mail subsidiary of British Telecom, and Istel, a division of the Rowhich has developed a range of activities in electronic data interchange, viewdata and electronic mail.

Nevertheless, two of the most powerful service providers in the UK are US-based multina-

mail field, a US-based group, Telemail, is now beginning to spread its wings in the UK and

lieve that there will now be more opportunities for development.

What the scope is for growth tailing through Tradanet, the motor industry through Motor-net, and the insurance sector through Brokernet. New areas are being added steadily: it has just launched a service for the European chemicals industry, and another for the shipping

> These international VAN services play to the strength of companies like Geisco, which companies has delect. Which already has the experience of handling telecommunications and data communications across a broad range of activiacross a broad range of activi-ties through their expertise in managing data systems for cli-ents who do not want to run their own. IBM is in a similar situation, broadening out from its traditional data services for individual companies to offer-ings which link a number of dif-ferent companies. ferent companies.

> Despite the restrictions on some markets in Europe, the operators appear to be convinced that there is nothing to stop the long-term growth of value added services. IBM, indeed, has established a special European organisation, Information Network Services, to bring together these activities in a European framework with links origidal. framework, with links outside to the US and Far East.

There are restrictions almost everywhere on these services except in the UK, with regulaiexcept in the UK, with regula-tions on the use of lines, special tariffing, or licences," says Mr Jean-Phillippe Gallant, director of telecommunications strategy for IBM Europe. But we now see a very positive trend to-wards the loosening of these regulations to allow these activ-ities to grow. Governments ev-erywhere are beginning to re-cognise their importance for the overall economic well-being of their countries."

Terry Dodawarth



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